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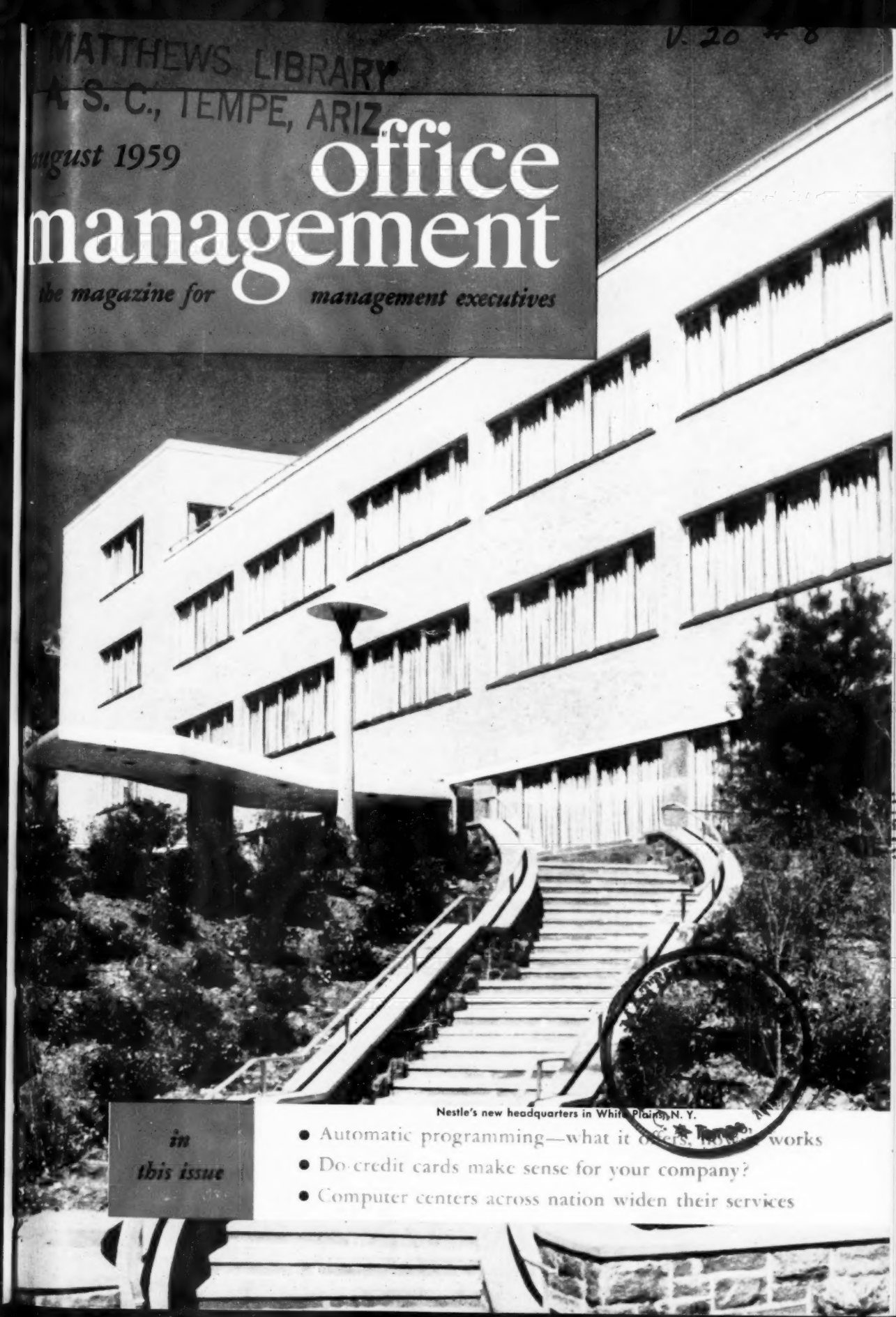
V. 20 #8

August 1959

office management

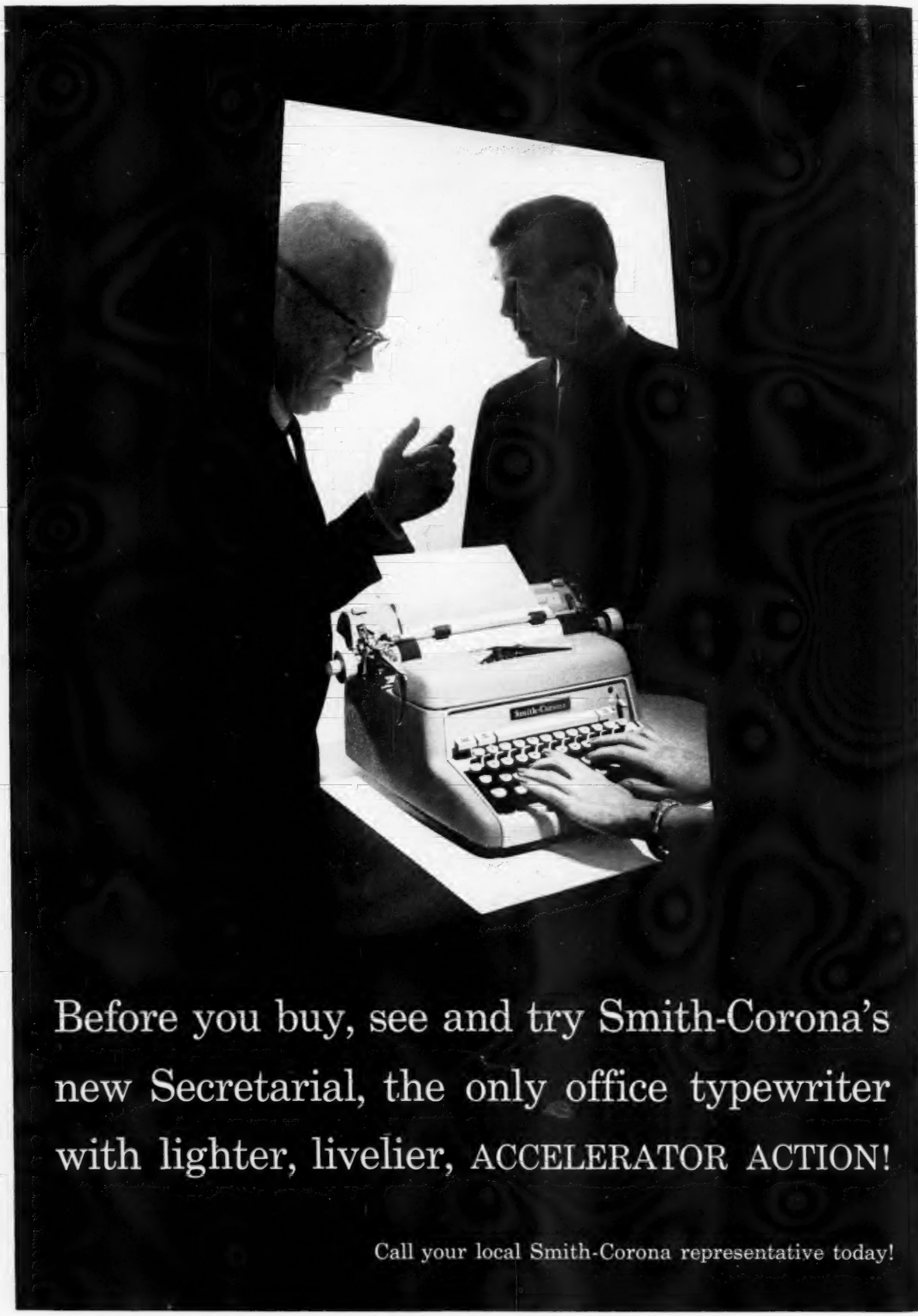
the magazine for management executives



Nestle's new headquarters in White Plains, N. Y.

in this issue

- Automatic programming—what it offers, how it works
- Do credit cards make sense for your company?
- Computer centers across nation widen their services



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office management

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in this issue:

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IN this issue we carry the story of an office that may be launching another new trend in the constant relocation of American offices. Nestlé previously located in the downtown district of White Plains, N. Y., itself a suburb of New York City, has recently established its new headquarters in a suburb of the suburb. See story, page 24.

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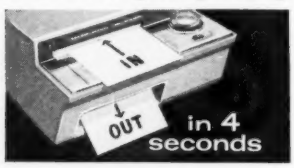

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U. S. Air Force Research Command gets new print reader

The development of a new information machine which reads typewritten pages and translates them into electrical signals at the rate of 200 characters a second has been announced by the United States Air Force Air Research and Development Command. The machine, called the Print Reader MX-2021, was developed by the Intelligent Machines Research Division of the Farrington Manufacturing Co., Arlington, Va.

The MX-2021 reads ordinary typewritten pages having upper and lower case alphabetical characters, numerals and punctuation marks. Scanning the page a line at a time, the machine reads the information one character at a time. These are instantly converted, through stored electronic logic, into electrical signals.

With the use of a scanner to produce TV-like video impulses from the typed characters on a page, the Print Reader then analyses the video pattern for identification clues. Processing the characters at the rate of 200 a second, the machine simultaneously translates the information into electrical signals for further processing. The output can be in the form of punched paper tape, punched cards, magnetic tape or it can be fed directly into electronic computers.

The Air Force estimates that thirty of these readers will automatically read and process information at the rate of ten million pages a year.

Foreign policy briefing urged for traveling U. S. businessmen

American business men travelling abroad must become spokesmen for United States foreign policy as well as for American business, Joseph M. Klein, vice president of international operations for Clary Corporation, told a recent meeting of the Foreign Trade Association in Los Angeles.

Business men visiting foreign countries are besieged by questions regarding the foreign and domestic policies of the United States government, Mr. Klein declared.

He proposed that the State Department set up "briefing stations" at principal embarkation points to bring travellers up to date on American policy.

"Our business men are ambassadors without portfolio," Mr. Klein stated, "and if they don't have the right

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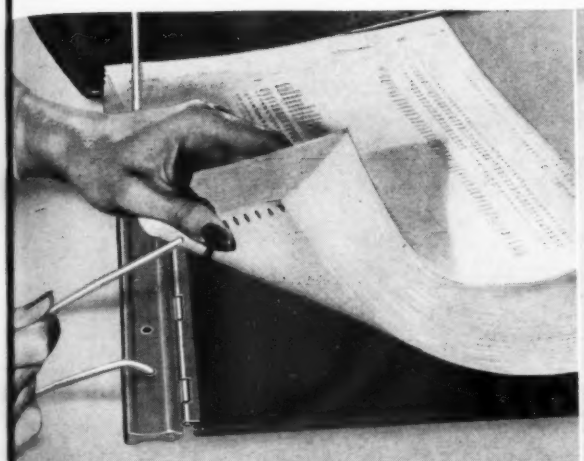

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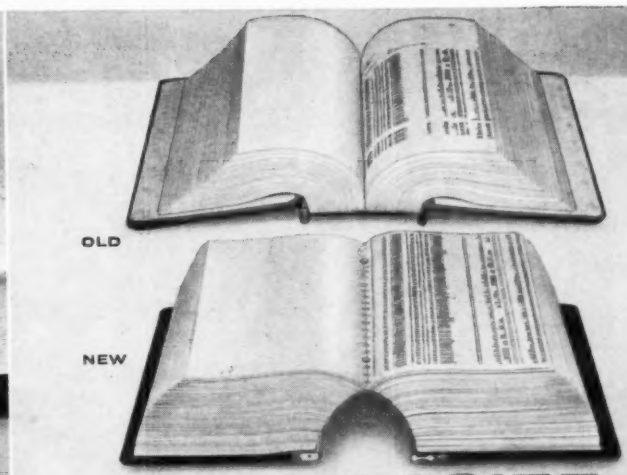

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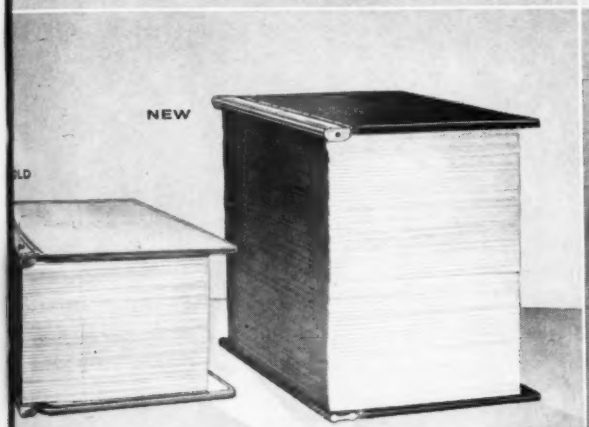

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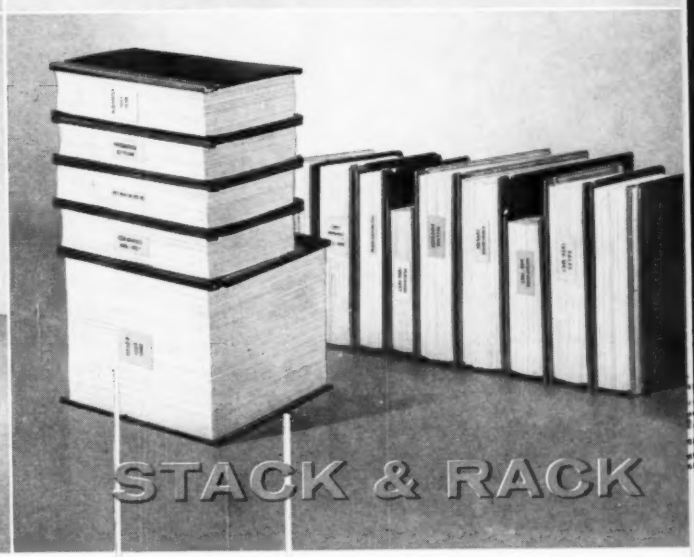

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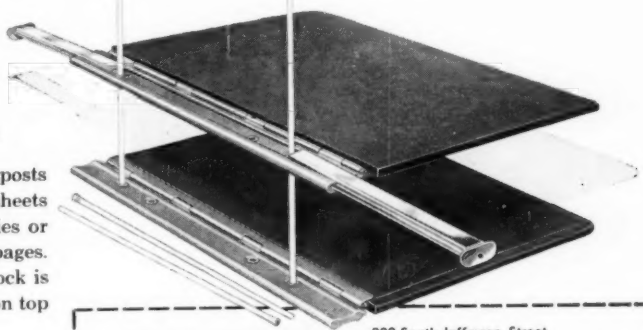

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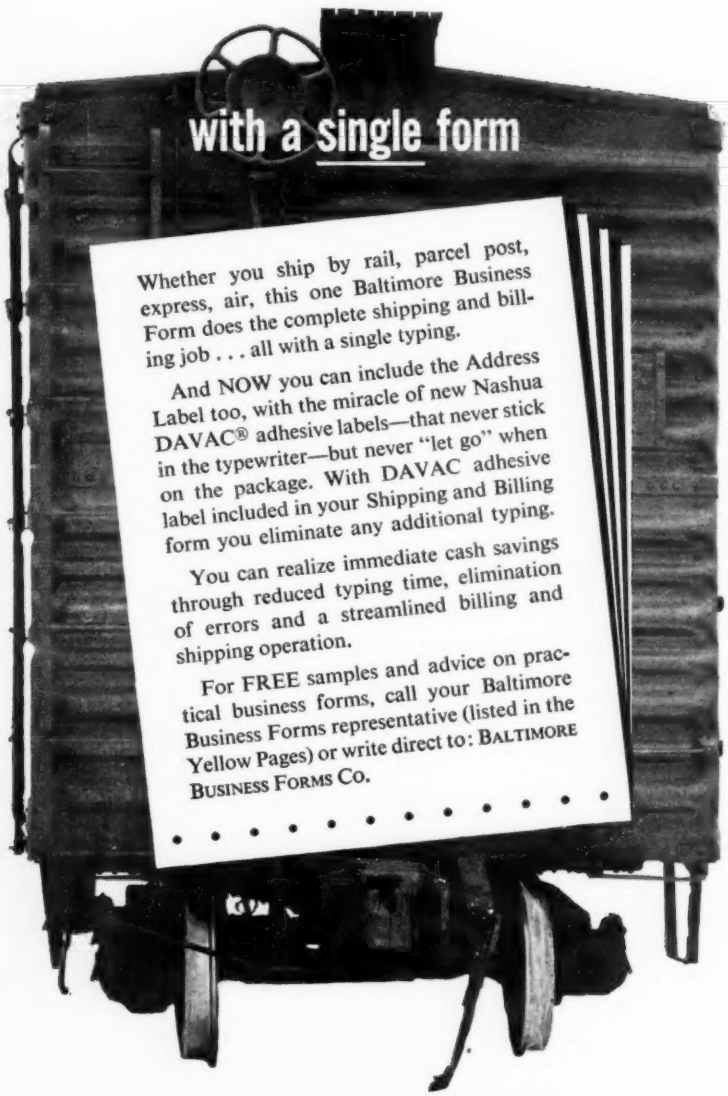
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(*From page* 6)

answers, then they definitely are not effective ambassadors."

Mr. Klein cited examples of the cross examination to which he was subjected on recent visits to 30 countries. The questions included:

"How do you explain racial discrimination in many parts of the United States?"

"Why does the United States oppose Communist China's admission to the United Nations when the Red government is in control of the entire China mainland?"

"Why does not the United States stop nuclear testing which the Russians have offered to do several times? Does not the United States appreciate the hazard of radioactive fallout?"

"Why does the United States support dictatorships in some countries when it claims to be a champion of democracy?"

These questions, Mr. Klein said, reflect an anti-American attitude nurtured by Communist propaganda and unless countered can be destructive to American prestige.

"It may be perfectly proper to go to the summit with world problems," he declared, "but it might be far more effective to go to the people in foreign countries with a program of better understanding."

Texas bank adopts automation to ease pay-by-check problems

The Exchange Bank and Trust Co., Dallas, Texas, has turned to automation to solve a major problem facing American banking—the mushrooming growth of the pay-by-check movement.

The bank's recent introduction of electronic proof machines built by the Burroughs Corporation was witnessed by more than 100 Texas bankers.

The newly developed machines sort, list and total the amounts of checks that are drawn on other banks. Many of the decisions involving check handling made by employees are made and carried out by these machines.

Gus Bowman, Exchange Bank president, noting that Americans wrote 10 billion checks in 1957 and that this figure is expected to be doubled in the next ten years, declared:

"It is our aim, in taking this first step toward automation in our bank, to stay abreast of new developments, which will add greater service and convenience to our customers."

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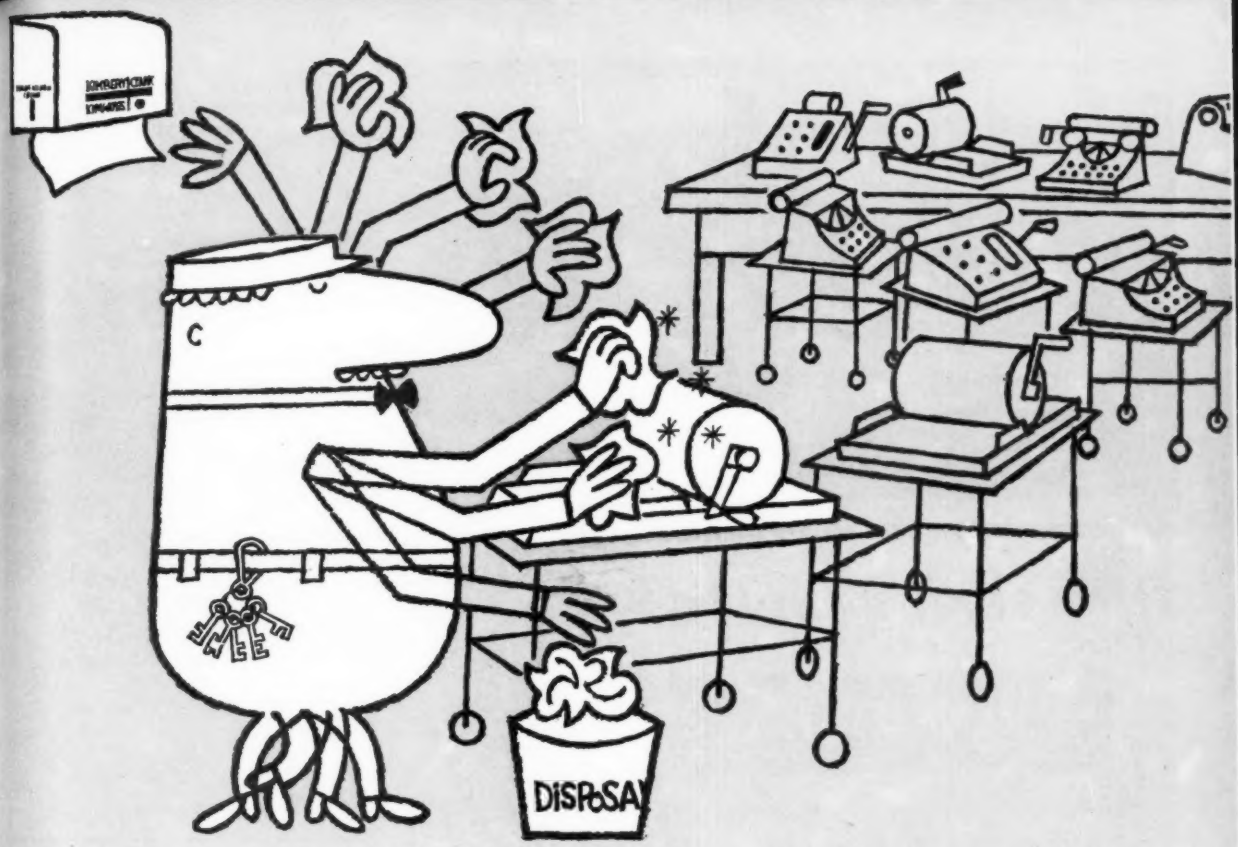

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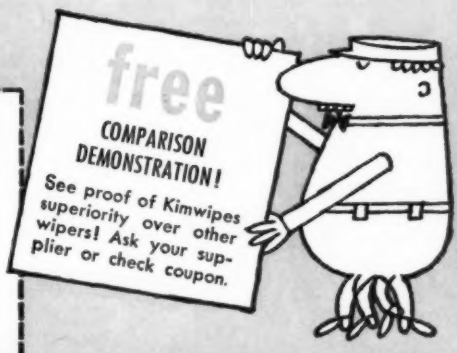

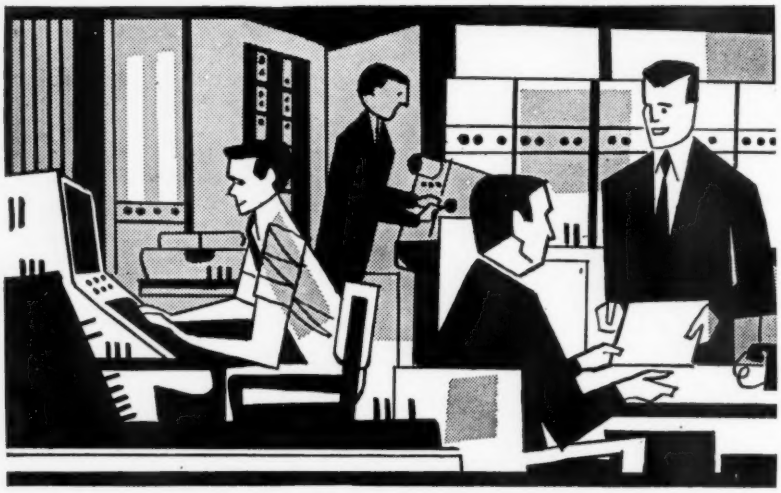

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Since the appearance of the first discussion on the subject of Automation in the Office in the August issue of 1952, OFFICE MANAGEMENT has published articles on Automation on a regular basis to keep the office abreast of everything new on this modern technique. Here are some typical ones:

JANUARY, 1958
How to prepare an office for a computer installation
FEBRUARY, 1958
Basic steps in programming a computer for a single operation
by Ben Conway
JUNE, 1958
Why small companies may need automation even more than larger concerns
by Robert M. Smith
JULY 1958
Why small companies need automation even more than larger concerns
Part 2 Equipment for "Automation in the Office"
AUGUST 1958
Why small companies need automation even more than larger concerns. (Conclusion)
SEPTEMBER 1958
The role of automation in freeing managers for more creative work.
OCTOBER 1958
Why new computer coding techniques may accelerate pace of office automation — by Robert M. Smith
JANUARY 1959 (Yearbook Issue)
Effects of recession still felt in current trends in automation
by Robert M. Smith

WHAT IS AUTOMATION IN THE OFFICE?

Automation in the office is the use of the rapidly multiplying new systems developments and facilities of electronics to synchronize the functions of separate units of equipment into an overall operation. Importantly, while it can and does employ the latest in electronic computers and other new devices, it does not necessarily call for costly or experimental type of machines and equipment. Equipment presently in use in every modern office in America can be geared in one way or another to Automation.
As new progress is achieved and case histories are reported, OFFICE MANAGEMENT will carry the great story forward.

OFFICE MANAGEMENT

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(*From page* 10)

Russian queries about U. S. answered by IBM computer

One of the key attractions of the United States exhibition in Sokolniki Park, Moscow, this month is the International Business Machines Corporation's giant Ramac. The five-ton electronic computer, stuffed with answers to 4,000 questions on American life, was flown to Russia last month.

Russian visitors to the exhibit are consulting the machine for facts and statistics on every aspect of life in the United States. The machine, turning to its 5,000,000 character "memory", prints out the answer in Russian on one of four electric typewriters. The addition of closed circuit television screens enables large crowds to read the answers at one time.

The machine's "library" of information, covering such categories as science, technology, education and culture, was prepared by the U.S. Information Agency.

In Short—

Webster products offered on new lease basis

The Webster Electric Co., Racine, Wis., has announced that it is now offering its electronic communication division products on a lease basis. The company's Teletalk intercom systems, Telecom dial intercom systems and paging and sound systems are available to users on a three or a five year leasing program with option to renew or purchase at the end of each term. Equipment may be rented from all sound engineers handling Webster products.

Whirlpool endows chair at Washington business school

The School of Business Administration of the American University, Washington, D. C., has been endowed with its first professorial chair as a result of a grant made by the Whirlpool Corporation, St. Joseph, Mo., it was announced recently. The appliance company's chair, the Whirlpool Chair of Marketing, will conduct research into problems and trends in marketing. A study of the home appliance industry to aid retailers improve marketing and management skills will also be made.

(*To page* 14)

One minute means a lot at the Stock Exchange . . .

New Teletype equipment at Merrill Lynch cuts transaction time 30%

In a business where seconds count, new Teletype Model 28 communication equipment is helping the brokerage house of Merrill, Lynch, Pierce, Fenner & Smith, Inc. speed-up "buy" and "sell" transactions by a full minute. Not only does the system get the customer's order to the floor of the Exchange faster, but it also provides needed additional communication capacity for Merrill Lynch offices in six cities. Where previously 80,000 words were transmitted daily, now 108,000 are handled by the new system.

Faster Equipment. To provide this increase in speed and capacity, each office on the network has new Teletype Model 28 equipment—which operates at 100 words per minute, is highly automated, and includes tape punching and reading facilities.

Built-in controls. Jim Price, wire chief at Merrill Lynch, says, "This new Teletype equipment is outstanding. It has increased our transaction handling capacity some 30%. We're particularly pleased with its dependability and compactness. Everything needed is built right into the units."

Communications, Data Processing, Automation. Why not investigate the time and money saving advantages of Teletype Model 28 equipment for your business? Along with its many advanced features, this new Line is designed on a "building-block" principle, with interchangeable components and provisions for added features. Thus, Model 28 equipment can be readily customized—whether your requirements involve message transmission within or between plants . . . or the more specialized communication and control needs of data processing and automation systems.

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*Address*_____

*City*_____ *State*_____

In Short—

(*From page* 12)

Michigan Gas Co. to construct unusual skyscraper in Detroit

The Michigan Consolidated Gas Co. has disclosed plans for the construction of a $20,000,000 skyscraper home in Detroit. The 32-story building, to occupy an entire block in the city's new Civic Center, will be ready for occupancy in mid-1962. Designed by Minoru Yamasaki of Birmingham, Mich., the structure will feature a six-sided window design which eliminates all horizontal lines from the superstructure and emphasizes the vertical columns and window dividers which extend in spires above the roof line. The 4800 windows will be in the shape of elongated hexagons encased in stainless steel frames.

Books and Pamphlets

BALANCED SKILLS: MEASURE OF EFFECTIVE MANAGERS. Pamphlet 39. Small Business Administration, Lafayette Bldg., Wash., D. C. This pamphlet discusses the talents essential for the proper management of the small business. It points out, among other things, that a good manager is also a good buyer, executive, advisor, citizen, and boss.

MAKING MEDIA WORK, by Philip Ward Burton. Printers' Ink Books, 100 Garfield Ave., New London, Conn. 448 pages. $8.50. This amply illustrated, completely indexed volume is the fifth in a series of books written on the subject of advertising by Mr. Burton, head of the department of advertising, Syracuse University. Within the book Mr. Burton analyzes various media with regard to their effectiveness, rates, revenue, and the way in which a particular medium is researched. The author also discusses the many abilities required of a good media man, with sidelights into his plans of action. Also included in the volume is: a complete bibliography of advertising books published in the USA; a listing of research organizations with an outline of their methods for obtaining results; and a chapter devoted entirely to circulation auditing companies.

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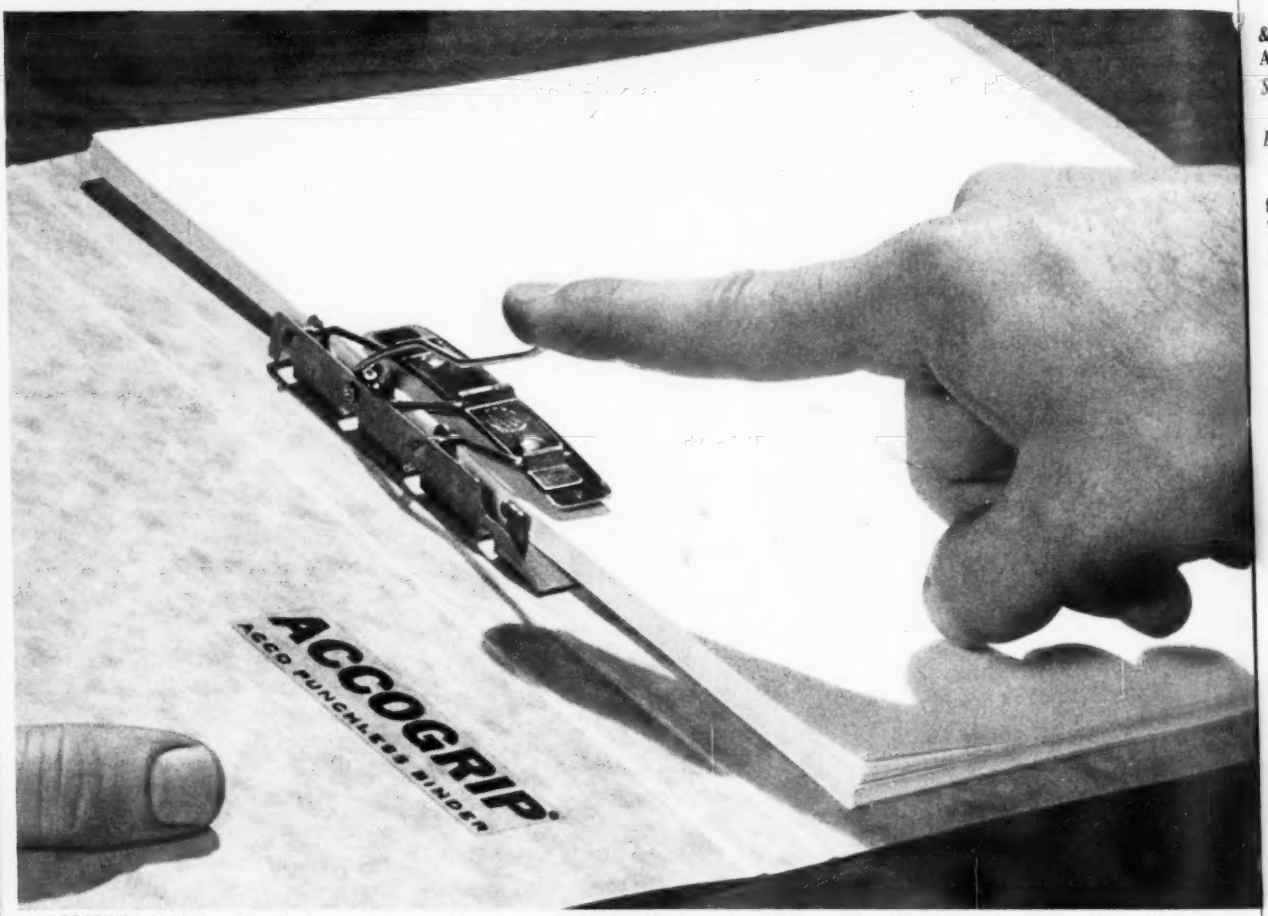

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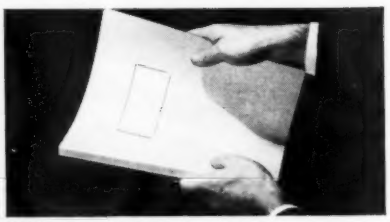

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Coming Events

AMA Seminar: Management, Men & Organization. Hamilton, N. Y., August 10-14.
Sponsor: American Management Association.
Place: Campus, Colgate University.

NOMA Business Machine and Office Equipment Exhibition. Charleston, West Virginia, September 10-12.
Sponsor: National Office Management Association.
Place: Charleston Civic Center.

ISA 14th Annual Instrument-Automation Conference and Exhibit. Chicago, September 21-25.
Sponsor: Instrument Society of America.
Place: International Amphitheater.

OEME Inaugural Exhibit. Washington, D. C. September 23-25.
Sponsor: Office Equipment Manufacturers Exhibits, Inc.
Place: National Guard Armory.

NSOEA 1959 Convention & Exhibit. Chicago, Ill., September 26-30.
Sponsor: National Stationery and Office Equipment Association.
Place: Conrad Hilton Hotel.

LOMA 1959 Annual Conference. Chicago, September 28-30.
Sponsor: Life Office Management Association.
Place: Edgewater Beach Hotel.

NOMA Area 2 Conference. Atlantic City, N. J., October 9-10.
Sponsor: National Office Management Association.
Place: Chalfonte-Haddon Hall.

NASS 17th Annual Convention. St. Louis, October 11-13.
Sponsor: National Association of Suggestion Systems.
Place: Sheraton Jefferson Hotel.

SPAA International Systems Meeting. Toronto, Ontario, October 12-14.
Sponsor: Systems and Procedures Association of America.
Place: Royal York Hotel.

APICS National Technical Conference and Exhibit. New York, October 16-17.
Sponsor: American Production and Inventory Control Society.
Place: Hotel New Yorker.

National Business Show, New York, October 19-23.
Sponsor: Office Executives Association of New York.
Place: New York Coliseum.

NMA 36th National Conference, Detroit, October 19-23.
Sponsor: National Management Association.
Place: Statler-Hilton Hotel.

AMA Office Management Conference. New York, October 21-23.
Sponsor: American Management Association.
Place: Roosevelt Hotel.

ARMA 4th Annual Meeting. San Francisco, October 23-24.
Sponsor: American Records Management Association.
Place: Palace Hotel.

CIA Annual Conference. Pittsburgh, October 24-28.
Sponsor: Controllers Institute of America.
Place: Penn-Sheraton Hotel

with the EDITORS

ELECTRONIC data processing, in comparison to the ancient game of checkers, is in its infancy. Yet, it is a fast-growing baby. The rapidity of its growth and the varied uses to which it can be put were stressed last month with the unveiling of an International Business Machines Corporation computer which has not only been taught to play checkers but has learned to improve its game and beat the man who developed it.

Dr. Arthur L. Samuel, IBM scientist and an expert checker player, is delighted with the success of his experiment with the giant 704 computer. He is being whipped at every game — each time more soundly. Other machines have been taught to play the game but their play shows no improvement. Dr. Samuel's opponent was given only the rules of the game and a few pointers. Taking it from there, the 704 decided which moves were important and how each would affect the outcome of the game.

Dr. Samuel terms his achievement "generalization learning," — in which the computer forgets specific instructions but constantly revises the list of factors it uses to analyze each new subject. He hopes to combine this learning with "rote learning" which requires the machine to remember all past situations.

THE development of machine learning could, of course, have profound application in industry and in the solution of social and economic "real life" problems, the IBM scientist believes.

Certainly, highly developed machine learning procedures will greatly diminish the amount of information that must be given to a computer before it can go to work on a problem.

AT any rate, now that we have a machine which is able, unlike all too many frail humans, to learn from its own mistakes, there remains only the ability to build in intuition, and a sure instinct for being on the right side in office politics. Or perhaps the latter quality could be programmed into the processor by the more astute empire builders. Partisans made to order, as it were.

AS summer wanes, the season of major conferences, and business shows approaches. This year, there will be two major fall business expositions: The Office Equipment Manufacturers Exposition in Washington, D. C., in September, and the National Business Show in New York in October. Look for previews of new machines and equipment to be exhibited at these shows in next month's issue. Major conferences scheduled in the near future include the American Management Association's fall Office Management Conference in New York in October, and the Systems and Procedures Association's annual meeting in Toronto that same month. Both of these important meetings will be fully covered in our November issue.

Robert M Smith
Editor

As business conditions continue to improve, the costs you cut during the recession may creep back into your company's operations

Holding the line on costs

Here is the practical, low-cost way to full-time control

To the responsible businessman, the relation between a company's costs and a company's profits is obvious. Yet, more often than not, a company's cost program is periodic rather than continual. Influenced by economic conditions, the cost control you initiate in bad times too often fades away in the face of prosperity.

The recent recession is a case in point. Then, cost-cutting was *the* most popular subject—an economic fact of life without which your business could not survive, let alone prosper.

Yet, today, with the up-turn in full swing, there's a new and ominous possibility. As you become more preoccupied with recovery and expansion, there's the danger that uneconomic practices may return. With your eyes on the future, much of the "fat" may grow back into your operations—thereby limiting the profit to be made in the days ahead.

How to get a clear, *continuous* look at your costs? With the simple, low-cost management controls afforded by the new Automatic Keysort System.

Automatic Keysort is today's only data processing system that provides a family of machines and methods designed for automatic creation and processing of original records. Speeding vital day-to-day and long-range facts essential to sound management, Keysort gives you the comprehensive, *on-time* reports you need about job costs, labor distribution, inventory, sales and orders . . . helps you spot money-losing situations almost as they happen. Thus, because you can move at once to tighten costs, you help assure a higher proportion of profit to sales.

With the Automatic Keysort System, businesses of every size can now enjoy fast, accurate data processing on either a centralized or decentralized basis. Without restrictive, complex procedures. Without specialized personnel. And at remarkably low cost.

Call your nearby Royal McBee Data Processing Representative, or write Royal McBee Corporation, Data Processing Division, Port Chester, N. Y. for illustrated brochure S-500. In Canada: The McBee Company, Ltd., 179 Bartley Drive, Toronto 16, Ont.

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NEW CONCEPTS IN PRACTICAL OFFICE AUTOMATION

Automatic programming—what does it offer, how does it work?

New concept, now being accepted by all major manufacturers, uses computer to create its own program, with input information restricted to simple English sentences —

by Robert M. Smith

LAST MONTH in this magazine, in a round-up story devoted to major developments in the field of electronic data processing during the first six months of 1959, it was reported that automatic programming, long debated—and often attacked—by programmers and manufacturers had finally won the day. All major manufacturers are now working on automatic programming systems for their computers, following the lead of Remington Rand which developed its Flow-Matic system for business data processing in 1956, and has been constantly refining it since.

What is automatic programming? What are its advantages and implied disadvantages? How does it work? And just how automatic is it?

Primarily the brain child of Dr. Grace Hopper, of Remington Rand's Automatic Programming Division, it is in essence a system by which a computer can be given business instructions for an entire business operation in comparatively simple English sentences. The computer then translates these instructions into complete and detailed operating instructions in machine language by calling on a library of stored sub-routines for each simple English operating verb entered on its input units. The operating instructions, combined with descriptions of the data to be processed, are combined into a master tape which serves as a complete program for the desired operation.

Thus, the effect of automatic programming is to reduce by a vast span the amount of time needed to devise a computer program. Moreover, automatic programming makes it possible for a businessman or systems expert to devise a perfectly logical and accurate computer program even though he is not trained in programming techniques. This can then be entered on the machine by a coder who can be trained in a week or so at most compared with the "machine coder" of the past, who required extensive training.

Attacked by professional programmers

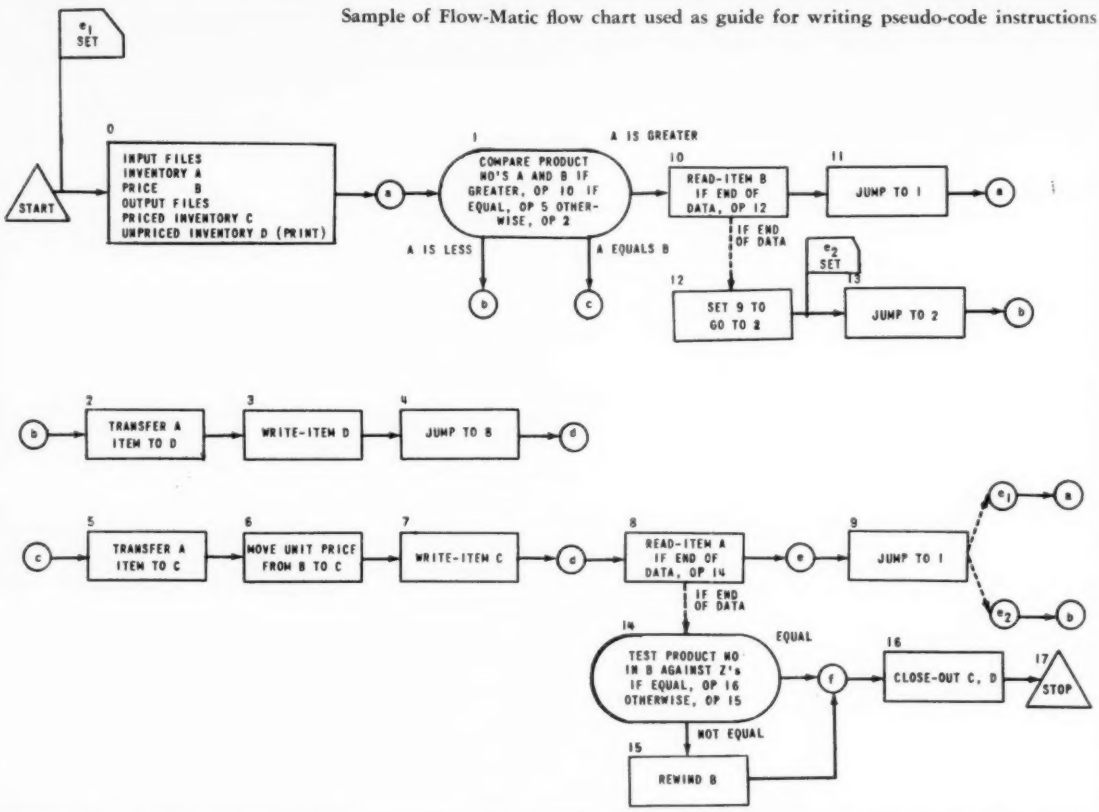
The whole concept has been attacked by professional programmers, who allege that automatic coding is not as efficient in terms of machine time as "hand coding"—detailing each step the machine is to take, rather than whole sub-routines, which the machine itself assembles into a program. It has also been viewed with some skepticism by business, which did not see how any assortment of pre-coded instructions could meet the needs of different companies with varying problems and varying terminology.

This attitude has persisted, in spite of the fact that automatic programming devices for scientific problems and applications have been in use for some time, on several different types of computers. Actually, there was some basis for the early doubts about data processing applications: scientific computations deal mainly with a clearly defined and rigid "language"—that of mathematics, which has specific meanings in every context. But in business applications, terms might vary from one company to the next, and procedures vary with every concern's system of doing things.

Yet obviously, automatic programming for data processing applications has arrived; every major electronic data processor manufacturer is now rushing to develop his own method of simplifying the programming pro-

Dr. Grace Murray Hopper, Director of Automatic Programming Research, Remington Rand Univac, Philadelphia, is a former mathematical officer of the Bureau of Ordnance of the U. S. Navy. It was Dr. Hopper who first developed the concept of the "compiler," basis of "automatic programming."

Sample of Flow-Matic flow chart used as guide for writing pseudo-code instructions



ANALYST: _____ INPUT AND OUTPUT DATA DESIGN PAGE: _____

DATE: _____ ABC MANUFACTURING COMPANY INVENTORY PROBLEM

NAME Δ OF Δ FILE	
INVENTORY Δ Δ	English name of file.
FILE Δ DESIGN Δ	
Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ Δ	
LABEL Δ Δ Δ Δ Δ Δ	
MMDDYYIOOIOI	1.) Label with reel counter. 2.) If label variable, all 9's.
LOC Δ OF Δ LABEL	
OOOOOOOOOO03	Word location of label in label block.
MULTI Δ REEL Δ Δ	
OOOOOOOOOOI	1 = Yes; 0 = No.
BLK Δ CT Δ IND Δ Δ	
OOOOOOOOOOOI	1 = Block count desired; 0 = No block count.
BLK Δ CT Δ LOC Δ Δ	
OOOOOOOOOOOI	Word location of block count in last item of sentinel block. [000 to (item size-1)]
END Δ REEL Δ SEN	
ZZZZZZZZZZY	End of reel sentinel. If single reel, all 9's.
END Δ FILE Δ SEN	
ZZZZZZZZZZZ	End of file sentinel.
LOC Δ IN Δ FIRST	
OOOOOOOOOOO	Word location of sentinel in first invalid item. [000 to (item size-1)]
LOC Δ IN Δ LAST Δ	

Simple forms permit machine users to set up their own data descriptions

blem by allowing the computer to do much of its own programming.

What is the basis of automatic programming, and why has it won the day so completely? In order to find out, this writer last month interviewed Dr. Grace Hopper, head of Automatic Programming Research, Remington Rand Univac Division, Sperry Rand Corp. Automatic programming for business data processing was originally Dr. Hopper's conception and it was her division which produced the first successful method of applying automatic coding techniques to business problems.

The division's approach, briefly, was to classify all program input information going into the computer into two categories: verbs, action words, which would trigger ready-made sub-routines, and nouns, descriptive words which could be assigned the particular meanings the company using the machine wished. The verbs would have the same meaning in any application; the nouns, describing the business data to be acted upon, could vary with each particular company.

Using this concept, it was possible

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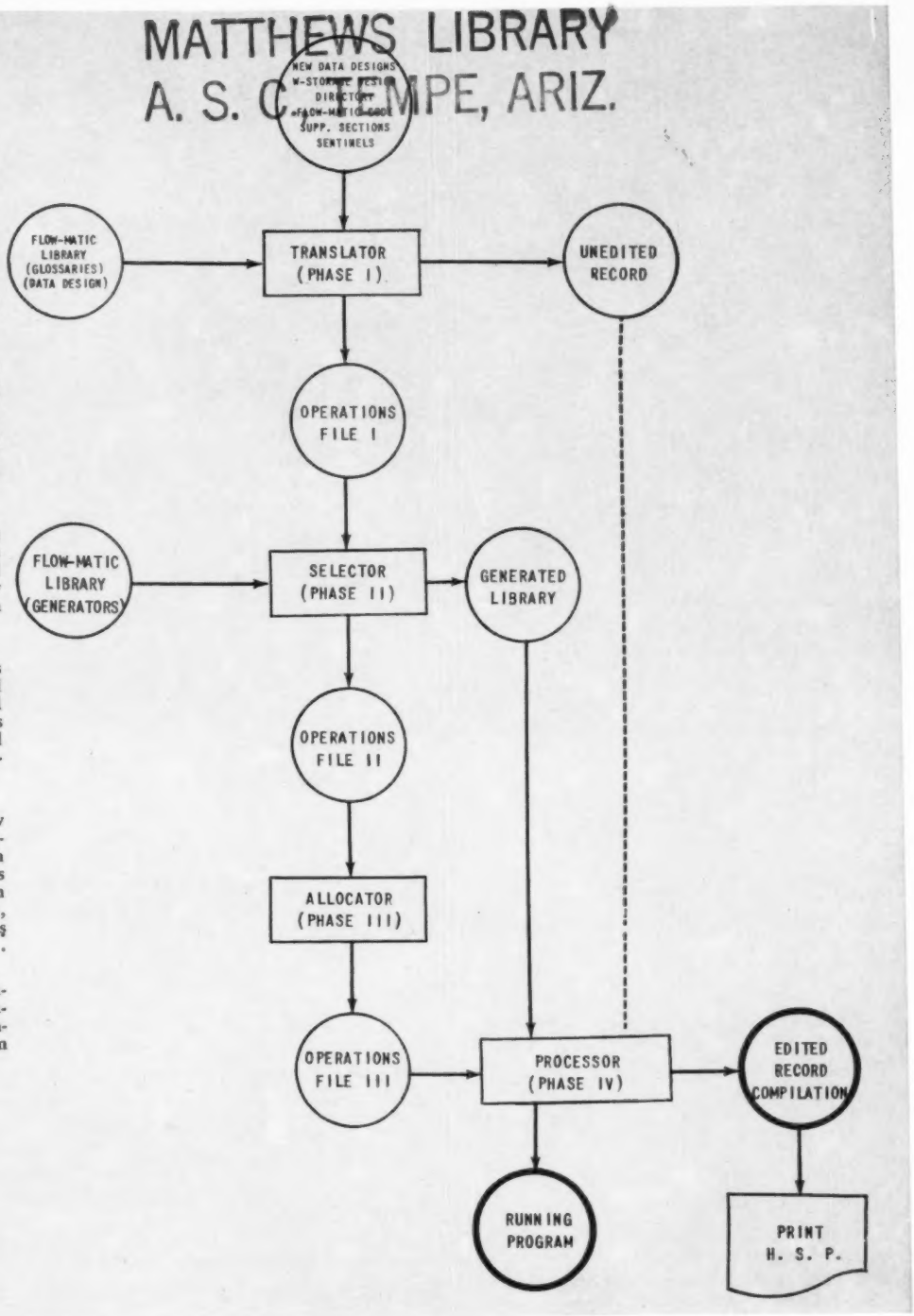


Chart illustrates compiling routine. As instructions are entered in pseudo-code, each noun or descriptive word triggers a machine language definition from the tape glossary prepared by the company owning the computer . . .

Producing Operations File I, carrying complete descriptions of the data to be processed, as well as the verbs describing how they are to be processed.

In the selection phase each of the verbs calls forth from the taped Flow-Matic Library the appropriate action sub-routine . . .

Creating Operations File II and Generated Library, in which all pseudo-code words have been translated into machine language . . .

Operations File II now goes through Allocation phase in which every bit of coding is given fixed address in computer's Memory, creating Operations File III, which is . . .

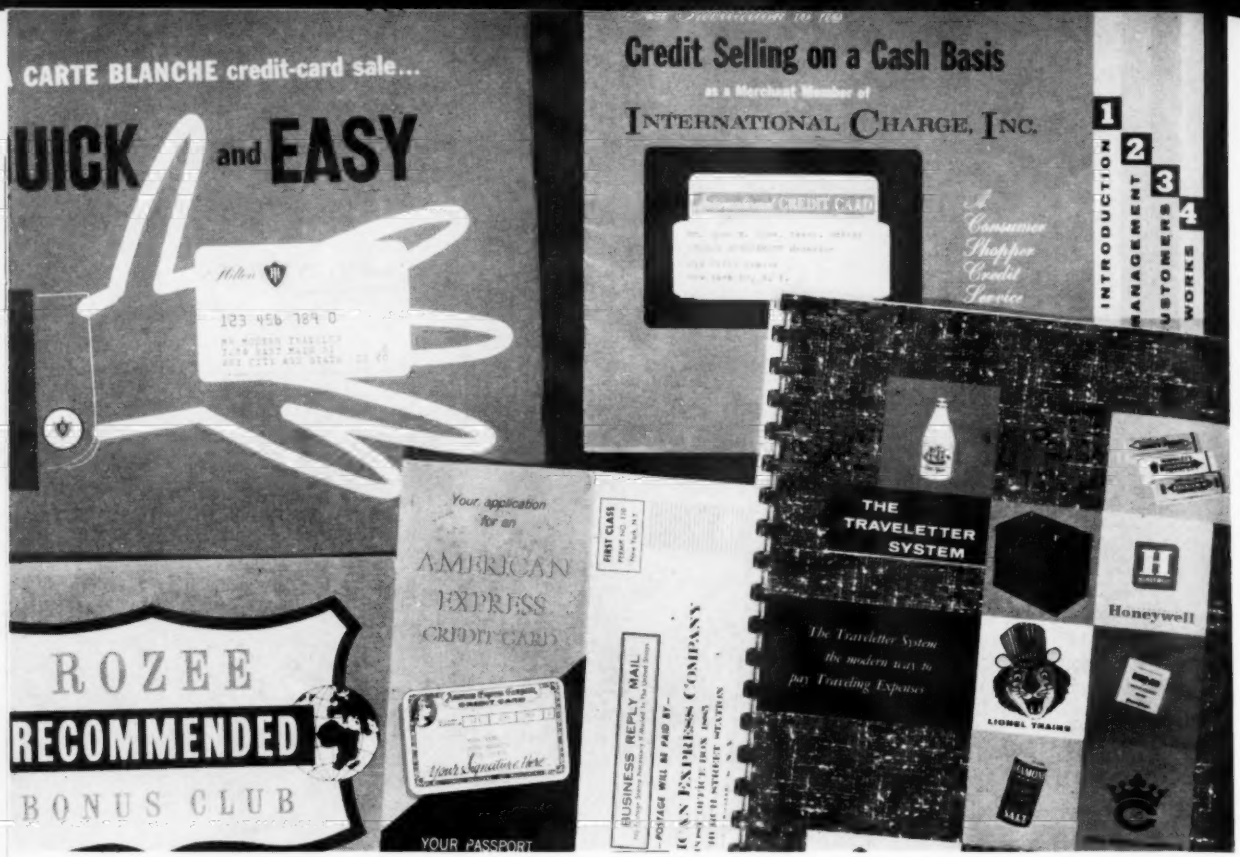
Merged with Generated Library by computer to assemble complete, coded program in right sequence.

to develop a "pseudo-code" of simple English words. These, written in simple sentences, could create an entire computer routine, without any need for trained programmers to work out each individual step the computer must take to accomplish the routine.

Thus, any application could be worked out in terms of an overall system describing the various steps that must be taken to achieve a desired result. This could be flow charted, and the steps on the chart written as simple English commands. These commands could be translated by the computer which would then compile its own complete program for performing the desired action.

Translation in this case is a bit of a misnomer, suggesting as it does that each instruction is literally interpreted into machine language as the machine is processing the problem. If this were done, each time the same instruction appeared in the program, it would have to be reinterpreted for

(*To page* 72)



Do credit cards make sense for your company's personnel?

Rapidly growing comprehensive credit cards present an amazing variety of services, and provide organizations with authenticated records of expenditures —

by John M. Sine

CREDIT CARDS have been issued by telephone and telegraph, and petroleum companies since the late 1930's. These credit cards, with which one could buy gasoline and oil, or charge a telephone call, seem small and impotent in contrast to the rapidly developing "comprehensive credit card." The small, or so-called, "restricted" credit card was given as a free service to customers in an effort to create brand loyalty. Such "restricted cards" are still being used and are also linking their services with the goliath comprehensive card. The latter is a charge service for which the user pays a yearly fee (ranging from five to six dollars), to become a member and patron of the multitudinous services offered by a comprehensive credit card company.

During the past twenty years there have been many credit card organizations which offered charge services in restaurants, hotels, and through various travel facilities, but they have either faltered by the economic wayside, or have been incorporated into the bold and fast-moving comprehensive companies. The result of many failures and mergers has finally brought the spotlight to focus on the three titans of the comprehensive credit card: The Diners' Club, American Express, and the Hilton Carte Blanche.

The Diners' Club, considered the grandfather of the universal credit card, was originated in February 1950, by the late Frank McNamara, operator of a small commercial credit firm. The idea of a form of credit to be used in restaurants came to Mr. McNamara after he had been caught in a strange Manhattan restaurant without enough cash to pay the bill. He related this unfortunate experience to his lawyer, Ralph Schneider, and together they began to hatch a scheme by which a business man might escape such further humiliation and inconvenience. It was difficult for the two men to convince restaurateurs that such a system would actually prove beneficial, but with a handful of skeptical members and participating restaurants, the Diners' Club was launched.

Some facts about Credit Cards

- **Provide executives and company representatives with detailed record of expenditures.**
- **The average card holder spends up to 25 per cent more when using card instead of cash.**
- **Add flexibility—permit company representatives to operate with confidence.**
- **Virtually eliminate expense account padding.**

A drug store, ball park, or Swiss Chalet may display one of these emblems . . .

It was the hope of McNamara and Schneider to eventually sign as many as 10,000 business men in the New York area, but results soon outdistanced anticipations. Today, the Diners' Club boasts a total of one million members, with an additional quarter of a million card holders expected in 1959. Members of the Diners' Club now have access to over 35,000 associated service organizations in the U. S. and abroad.

In 1952, Alfred Bloomingdale, an enterprising West Coast executive became president of the Diners' Club, with Ralph Schneider as chairman of the board. The combination of Bloomingdale and Schneider, with assists from Vice President Matty Simmons, has made the Diners' Club one of the largest such organizations in existence.

Perhaps another reason for the sudden growth and variety of services offered by the Diners' Club was the appearance of American Express as a serious competitor on the credit card scene. The 109-year-old travel organization is a relative newcomer, having only initiated its credit card services in October, 1958. However, the intention of American Express to dominate the credit card field was clearly illuminated in this remark from president Ralph T. Reed: "Eventually it is our hope to liberate the American wallet of its multiplicity of credit cards, and to substitute a single, all-inclusive credit card." (*To page* 66)

Traveletter credential (top) shows authorized weekly payment, and endorsed list of previously cashed Travelorders. Bottom, salesman places receipts in Travelorder, exchanges it for cash.

American headquarters of the Nestlé Company, Inc., White Plains, N. Y.

Gracious reception lobby features the pictorial history of the Nestlé organization through a gesso mural by artist Louis Ross

Nestlé unifies headquarters operations in new suburban location

Above: Office of president Wolflisberg is decorated in conservative motif: dark wood wainscoting, soft colored furnishings, and distinctive, patterned curtains. Below: Nestlé conference room.

Pleasant environment increases productivity — acts as "stimulus" says one executive.

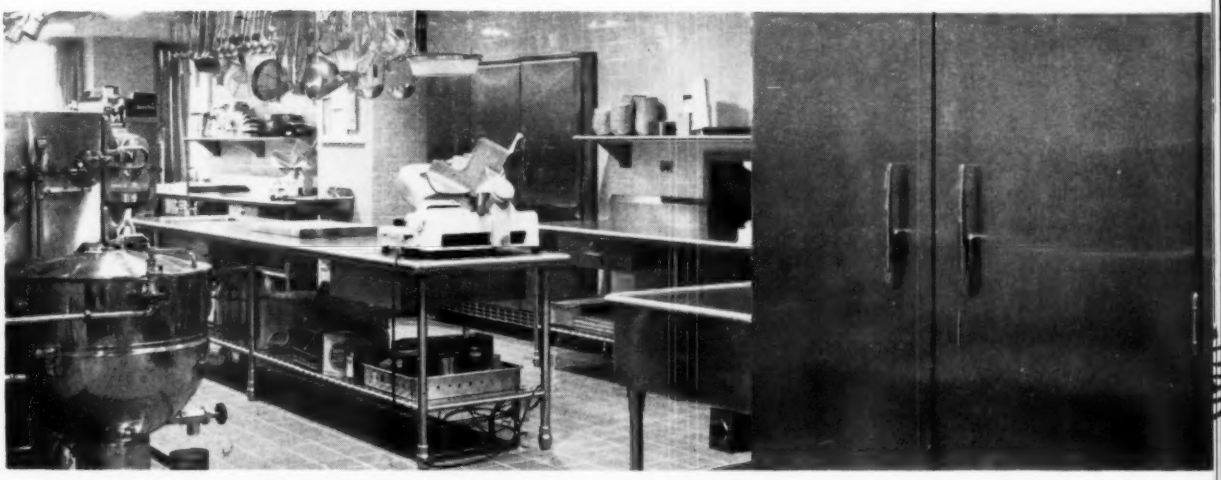
THIS is the American headquarters of the Nestlé Company. Within this building is found a complete management organism; all of the complexities of a world-wide organization reside within this light brick building on the wooded outskirts of White Plains, New York.

Why did Nestlé choose a suburban site for its new headquarters? The answers are perhaps obvious. The company previously occupied two separate buildings and part of a third in central White Plains. Now, all operations are under one roof, under one harness, under one smooth flowing plan of action.

A company official was asked if having an office overlooking the pleasant countryside didn't somehow affect his work. "Indeed it has," he remarked, "my productivity has approximately doubled since we moved out here. The same thought occurs to quite a few people—that the pleasant surroundings to be seen from the window would prove distracting—but to the contrary it has acted as a stimulus."

The building lies quietly among the shrubbery and trees natural to the vicinity; it overlooks a small lake and gently sloping hillside. Bloomingdale Road connects the building with a

Open work areas such as the general accounting section have lighting set flush in acoustical ceilings. Brightly colored columns, and complementing floor tiles add warmth to expansive areas.



Above: Fully equipped, ultra-modern kitchen serves Nestlé employees with tasty, moderately priced lunches. Order and cleanliness epitomize Nestlé operations from corner to kitchen.

Below: Over 85 per cent of the employees at Nestlé headquarters take advantage of the ground floor dining room. Soft lighting and music provide relaxation during the normal working day.

The coffee testing laboratory contains all the equipment necessary to work modern wonders on the coffee bean. Experts roast, grind, and taste to create new and flavorful product blends.

Offices of the engineering department are divided by movable partitions topped with glass panels. Arrangement provides needed privacy with benefits of open area heating and cooling.

Above: Some executive offices provide space for personal conferences. Below: Secretarial pool serving administrative offices.

Thruway extension a short distance away. Shuttle buses deposit workers in the center of White Plains and the train station in less than ten minutes. Parking lots are spacious.

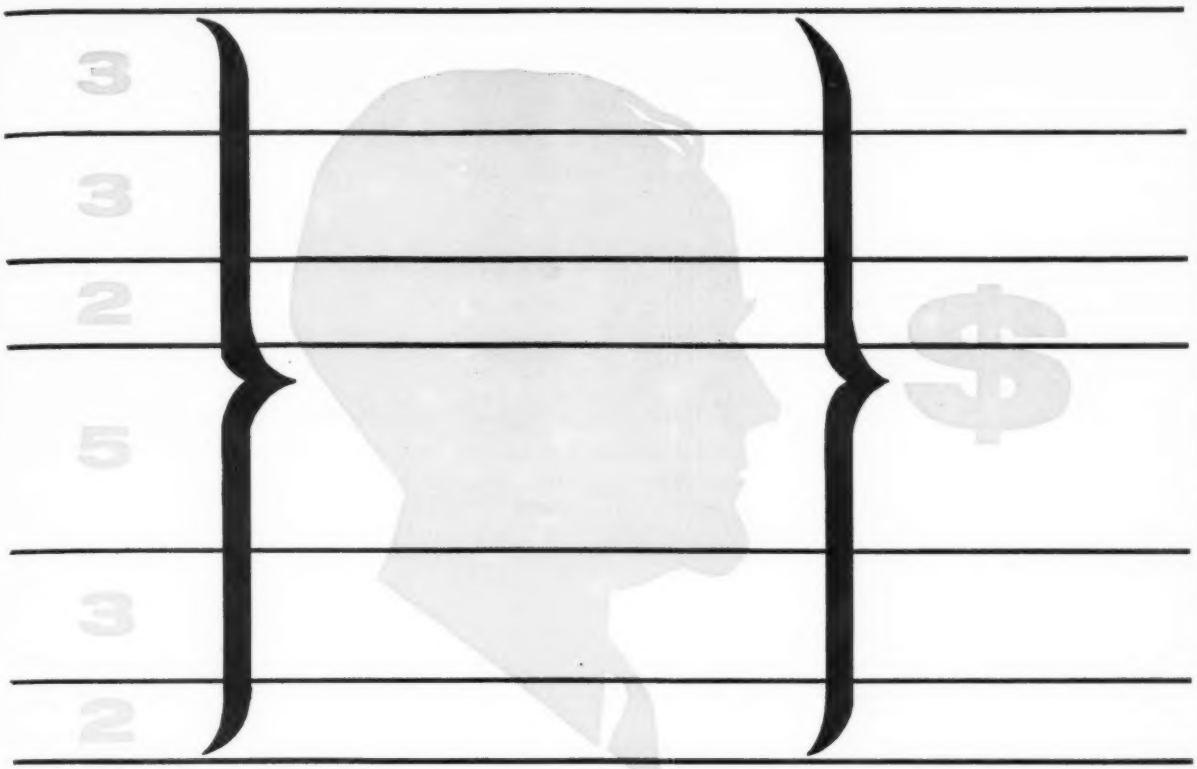
The fourth floor of the four-story building contains the majority of top executive offices. The offices follow a layout designed by a consulting decorator, but each office reflects the individual who works within it; style of furniture, color, and wall hangings are the personal choice of the occupant.

A thermostat allows the executive to regulate office temperature to suit his personal comfort. Offices and corridors on this floor have wall-to-wall carpeting which reduces traffic noise to a whisper. As on every floor of the building, a reception room receives visitors to the executive area.

Although many principles and concepts contribute to the planning and construction of an office building, primary consideration in planning the Nestlé headquarters was given to smooth internal functioning. "The utmost care was given to planning the building from the inside out," a company official reports. "It was designed to perform in such a manner as to make it an efficient working tool not forgetting comfort, of course. The shell of the building was given careful planning as well. A great many pains were taken to make it attractive and pleasing to the eye."

The building layout is tailored to the specific operations of the company. Departments having similar or integrated operations are situated to allow

(*To page* 79)



How to evaluate the "intangibles" in personnel selection and promotion

by **Richard Paulson**
Management Consultant, La Joya, Calif.

This article outlines a method developed by the author which management could combine with more conventional means for setting base salaries to evaluate employees' overall experience and capacities.

A PROBLEM exists in industry and business today that has been with us for many years, but for some reason or another seems to have been overlooked or in most cases merely shrugged off. It concerns everyone from the executive on down. Some industries call it job review; others wage review; and still others call it performance review. No matter what the title, it is one of the few areas in industry which directly affects the pocketbook of every individual concerned.

As an individual, how many of you have ever experienced the frustrating feeling during review time when the boss calls you into his office and tells you that you've been passed? Or that you've been given a small raise just after you've completed a momentous task that you thought would certainly result in a fat increase in pay? How many of you have ever accepted positions and later on discovered that a fellow employee with fewer qualifications than yourself was making more money and to make matters worse, had received a sizable wage increase during his review while you received little or none? As a member of management, how many times have you honestly believed that the present type of performance review forms greatly assisted you in the evaluation of an employee's achievements? It has been the author's experience that these conditions occur much too often within industry today. As a result, a research study was conducted by the author with the express intention of devising some plan or scheme, which would be virtually foolproof in situations where wage or performance reviews as well as salary rates were concerned.

One of the first things industry or business should consider when it is hiring an employee is the individual's background. Experience, education, aptitudes should all be evaluated. Presumably this is being done today by personnel interviewers, but it is often done without the use of any standard guide or tool. Consequently many an individual is either hired or disregarded strictly according to the whims of the interviewer. Since the interviewer must of necessity rely on his hunches and personal feelings, many a person is hired for duties which may prove either far above or far below his capacity.

Therefore, before anyone can ever

BASE SALARY EVALUATION PLAN *FORM A*

(To be used for purpose of hiring; or evaluating base salary rates)

SALARY EVALUATION SUMMARY

I. *JOB EXPERIENCE*	*POINTS*
a. Business owner	15
b. Professional (over 5 yrs.)	10
c. Professional (less than 5 yrs.)	5
d. Trade (over 2 yrs.)	5
e. Sales (over 1 yr.)	4
f. Unskilled work	3
g. Unrelated	1
II. *LEADERSHIP*	
a. Former executive	15
b. Former military officer/supervisor	10
c. Former military non-com/leadman	5
III. *TRAINING*	
a. College grad..Phd.	7
b. College grad..MA	7
c. College grad..BA/BS	5
d. High school grad.	3
e. Grade school grad.	1
f. Miscellaneous courses. (of over 2 weeks long)	1
g. (less than 2 weeks)	½

IV. *ACCOMPLISHMENTS*	*POINTS*
a. Inventor	5 for each patent/copyright
b. Writer	4 for each published article
c. Writer	3 for each paper read at mtgs.
d. Writer	1 for each published item
e. Artist	2 for each painting sold
f. Organization	1 for each membership, civic office, etc.

V. *IQ RATING*

a. Points determined by total IQ score. i.e., IQ of 120 = 120 pts.

VI. *FACTOR*

a. $\frac{\text{Individual age} + \text{marital state}}{10}$

FORMULA = I + II + III + IV + V × VI = Monthly Base Salary.

BASE SALARY EVALUATION PLAN *FORM B*

PERFORMANCE REVIEW SUMMARY

I. *SKILL ON JOB*	*POINTS*
a. Superior	3
b. Above average	2
c. Average	1
d. Below average	0
II. *CREATIVITY*	
a. Superior	4
b. Above average	3
c. Average	2
d. Below average	1
e. Nil	0
III. *PERSONALITY*	
a. Superior	4
b. Above average	3
c. Average	1

IV. *JOB EFFORT*	*POINTS*
a. High physical	4
b. High mental	3
c. Medium physical	2
d. Medium mental	1
e. Neither	0
V. *RESPONSIBILITY*	
a. Capable	4
b. Able	2
c. Irresponsible	−2
VI. *WORKING CONDITIONS*	
a. Excellent	0
b. Good	2
c. Fair	4
d. Poor	7
VII. *FACTOR*	
a. Seniority + marital state	

Formula = total points of all above items, etc.;

I + II + III + IV + V + VI + VII = monthly rate of pay increase.

be given any type of fair and realistic wage or performance review, he should be properly and adequately typed or classified. How can this be done? By using the Base Salary Evaluation Plan, BSEP I believe is a simple, fast, and accurate means to establish the fairest, honest, and most equitable starting salary for a new employee of a firm; as well as a means to adjust the wage scale of all current employees.

Many tests inadequate

Although many firms give new employees tests to determine if they are qualified for the job at hand, unfortunately many of these tests are inadequate or meaningless. BSEP on the other hand, is not a test in its true sense, but rather a combination of point-weighted statements based largely on the individual's own personal history and background. It would work in the following manner. As noted in Form A, there are a number of categories and values or factors listed. For purposes of illustration, only the more important categories and factors will be defined. The interviewer would use Form A as a guide when reviewing an applicant's resumé prior to hiring; or management could use it to evaluate the current salaries of its employees. To illustrate, suppose we assume a typical situation.

A young applicant with an MA in math, applies for a job as a Statistical Analyst. He is 25 years old, married, and has two children. He spent five years in college, working part time as a credit reporter. Two years were spent in the capacity of an officer in the Navy, during which time he also studied art.

Subsequently, he sold a few of his paintings for fairly substantial sums. His IQ in the Navy was 120, but the firm has given him another IQ test which resulted in a score of 130. Industry-wise, he has had no experience, so on this basis under ordinary conditions, he would have to start in at a fairly low salary. However, this is really unfair, since he has already chalked up some substantial accomplishments, and these should be recognized. Using the BSEP system, he would receive a total of 410.8 points. If we assume that one point equals one dollar, $410.80 would then become the starting monthly salary of the new employee.

Anl then six months later when

(*To page* 54)

Above is the new RCA computer center at Camden. Below, IBM's New York center.

Computer centers across nation continue to widen services to small business—

The "computer-for-hire" centers maintained by major manufacturers of electronic computers are offering the benefits of automation to thousands of smaller firms.

by Gerald Cook

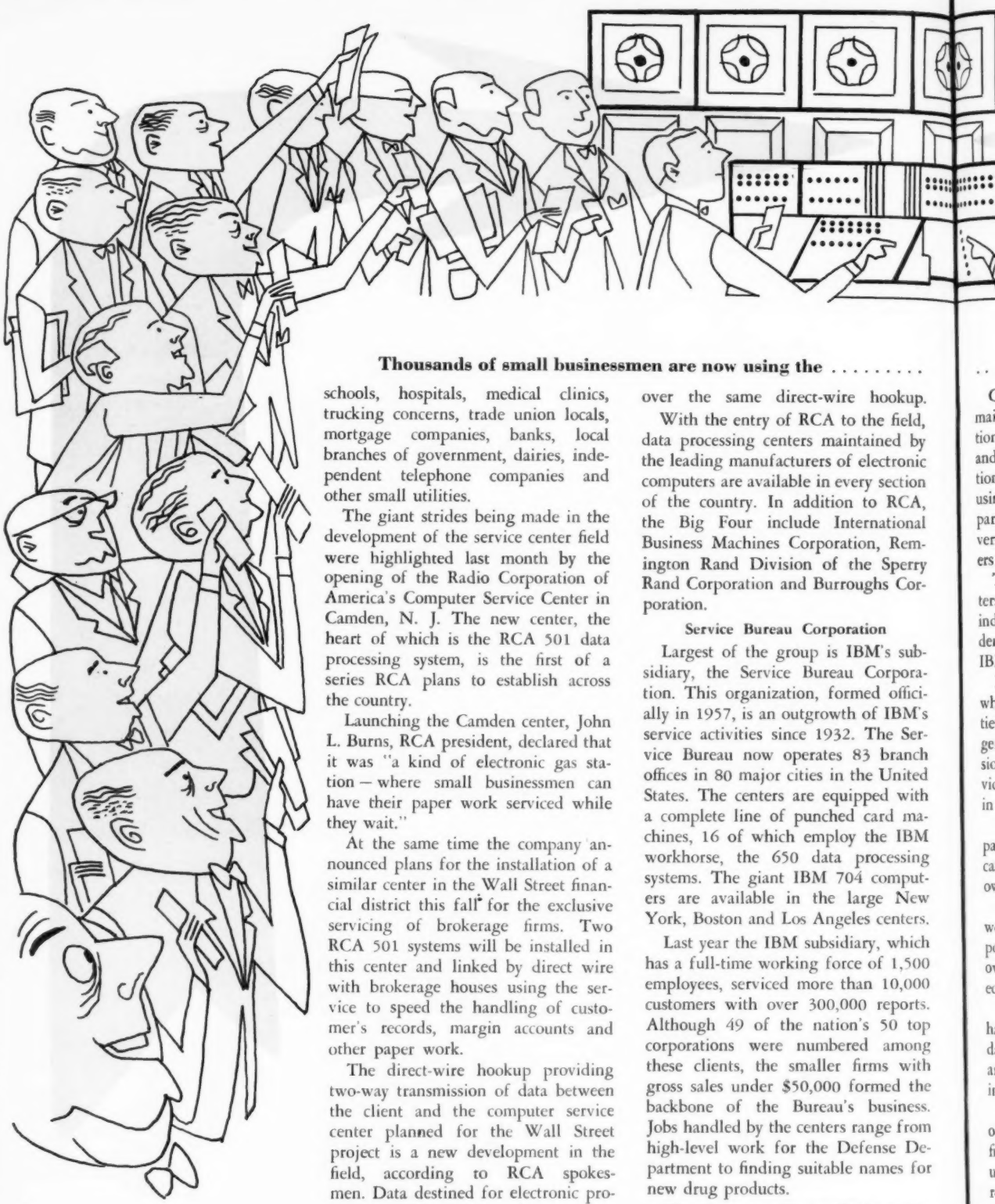
A FEW YEARS ago a New York doctor received a phone call from a patient. It was the type of call he soon came to dread.

"Doctor, would you mind sending me a statement itemizing my medical expenses for the past year?"

Similar requests began to come in steadily. Before long, at the approach of each income tax deadline, the harried doctor, his receptionist and his wife were devoting long evenings to a mounting load of paper work.

The doctor, like many in the medical profession, solved his problem by employing the facilities of an electronic data processing service center. The ever-increasing volume of customer demand for small-scale service has, in recent years, resulted in a rapid growth of these centers.

Thousands of small business firms and other organizations whose size and scope do not justify their having an electronic data processing system of their own have become convinced of the benefits of the burgeoning "computer for hire" system. The list of such groups using service centers is impressive. It includes insurance agencies, small manufacturers, radio stations,



Thousands of small businessmen are now using the .....

schools, hospitals, medical clinics, trucking concerns, trade union locals, mortgage companies, banks, local branches of government, dairies, independent telephone companies and other small utilities.

The giant strides being made in the development of the service center field were highlighted last month by the opening of the Radio Corporation of America's Computer Service Center in Camden, N. J. The new center, the heart of which is the RCA 501 data processing system, is the first of a series RCA plans to establish across the country.

Launching the Camden center, John L. Burns, RCA president, declared that it was "a kind of electronic gas station – where small businessmen can have their paper work serviced while they wait."

At the same time the company announced plans for the installation of a similar center in the Wall Street financial district this fall for the exclusive servicing of brokerage firms. Two RCA 501 systems will be installed in this center and linked by direct wire with brokerage houses using the service to speed the handling of customer's records, margin accounts and other paper work.

The direct-wire hookup providing two-way transmission of data between the client and the computer service center planned for the Wall Street project is a new development in the field, according to RCA spokesmen. Data destined for electronic processing will be fed into the computers by wire from the individual brokerage houses with the information contained on perforated paper tape or punched cards. The processed data will then be relayed back to the point of origin over the same direct-wire hookup.

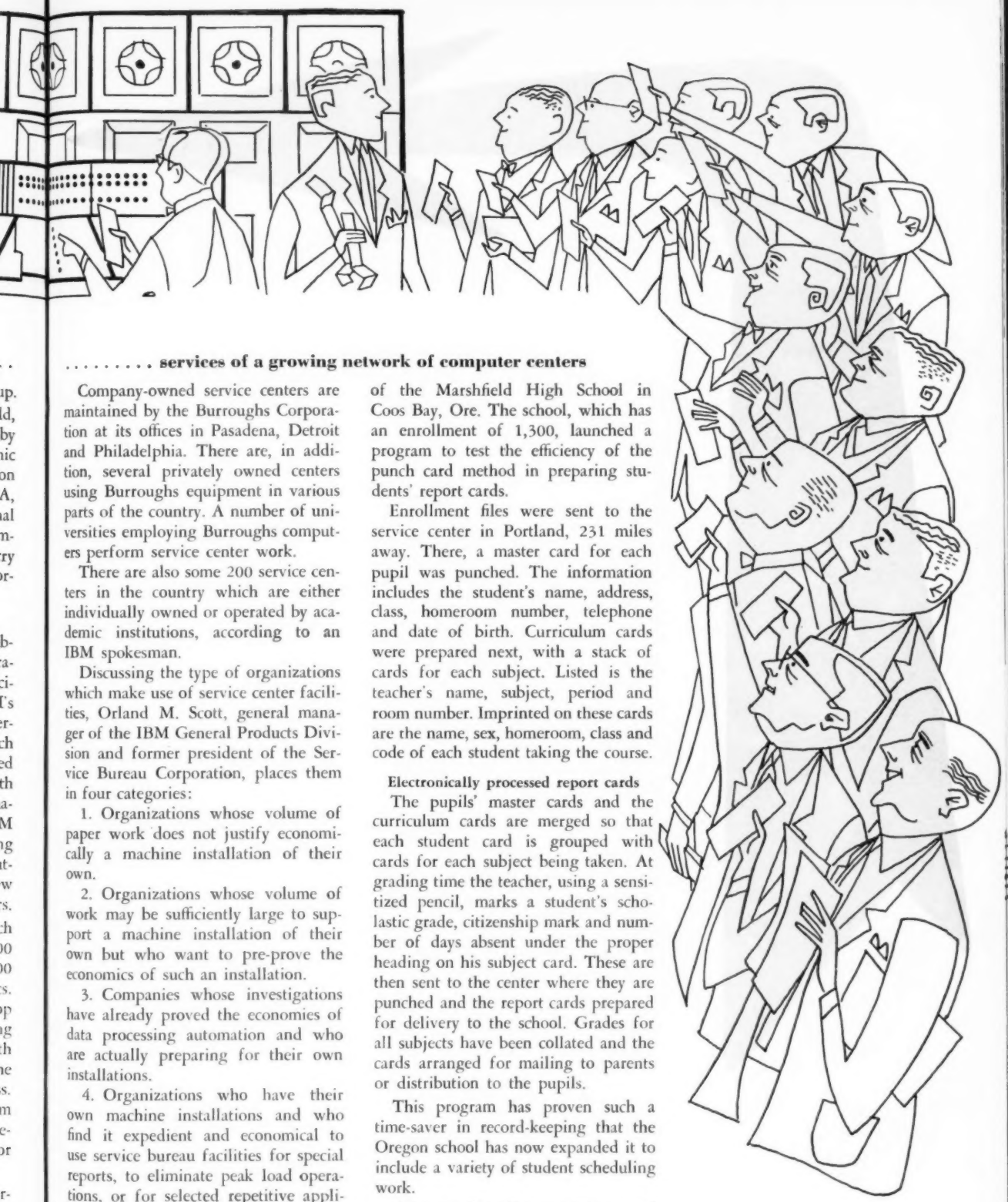
With the entry of RCA to the field, data processing centers maintained by the leading manufacturers of electronic computers are available in every section of the country. In addition to RCA, the Big Four include International Business Machines Corporation, Remington Rand Division of the Sperry Rand Corporation and Burroughs Corporation.

Service Bureau Corporation

Largest of the group is IBM's subsidiary, the Service Bureau Corporation. This organization, formed officially in 1957, is an outgrowth of IBM's service activities since 1932. The Service Bureau now operates 83 branch offices in 80 major cities in the United States. The centers are equipped with a complete line of punched card machines, 16 of which employ the IBM workhorse, the 650 data processing systems. The giant IBM 704 computers are available in the large New York, Boston and Los Angeles centers.

Last year the IBM subsidiary, which has a full-time working force of 1,500 employees, serviced more than 10,000 customers with over 300,000 reports. Although 49 of the nation's 50 top corporations were numbered among these clients, the smaller firms with gross sales under $50,000 formed the backbone of the Bureau's business. Jobs handled by the centers range from high-level work for the Defense Department to finding suitable names for new drug products.

The Computer Center Business Organization, a Remington Rand subsidiary, operates service centers in 27 cities all over the country. Since it was launched in 1954 it has increased its business 15 times over.



. . . . . services of a growing network of computer centers

Company-owned service centers are maintained by the Burroughs Corporation at its offices in Pasadena, Detroit and Philadelphia. There are, in addition, several privately owned centers using Burroughs equipment in various parts of the country. A number of universities employing Burroughs computers perform service center work.

There are also some 200 service centers in the country which are either individually owned or operated by academic institutions, according to an IBM spokesman.

Discussing the type of organizations which make use of service center facilities, Orland M. Scott, general manager of the IBM General Products Division and former president of the Service Bureau Corporation, places them in four categories:

1. Organizations whose volume of paper work does not justify economically a machine installation of their own.

2. Organizations whose volume of work may be sufficiently large to support a machine installation of their own but who want to pre-prove the economics of such an installation.

3. Companies whose investigations have already proved the economies of data processing automation and who are actually preparing for their own installations.

4. Organizations who have their own machine installations and who find it expedient and economical to use service bureau facilities for special reports, to eliminate peak load operations, or for selected repetitive applications.

Typical, perhaps, of the kind of operations the centers are performing for smaller groups was the mechanization last year of the clerical work of the Marshfield High School in Coos Bay, Ore. The school, which has an enrollment of 1,300, launched a program to test the efficiency of the punch card method in preparing students' report cards.

Enrollment files were sent to the service center in Portland, 231 miles away. There, a master card for each pupil was punched. The information includes the student's name, address, class, homeroom number, telephone and date of birth. Curriculum cards were prepared next, with a stack of cards for each subject. Listed is the teacher's name, subject, period and room number. Imprinted on these cards are the name, sex, homeroom, class and code of each student taking the course.

Electronically processed report cards

The pupils' master cards and the curriculum cards are merged so that each student card is grouped with cards for each subject being taken. At grading time the teacher, using a sensitized pencil, marks a student's scholastic grade, citizenship mark and number of days absent under the proper heading on his subject card. These are then sent to the center where they are punched and the report cards prepared for delivery to the school. Grades for all subjects have been collated and the cards arranged for mailing to parents or distribution to the pupils.

This program has proven such a time-saver in record-keeping that the Oregon school has now expanded it to include a variety of student scheduling work.

A large industrial organization saved itself a lot of headaches last year by turning to IBM 650 data processing for the scheduling of vacations for its

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How we systematically cleared our files of 5,000,000 superfluous papers

Decentralized active files cover two-year span. Here Kay Bray, media records supervisor, consults her group's files on agency's media floor

Uniform records management program throughout advertising agency solves paperwork dilemma —

by **Richard P. Essey**
Manager, Office Operations
Benton & Bowles, New York

HOW CAN you efficiently rid your files of over 5,000,000 pieces of paper?

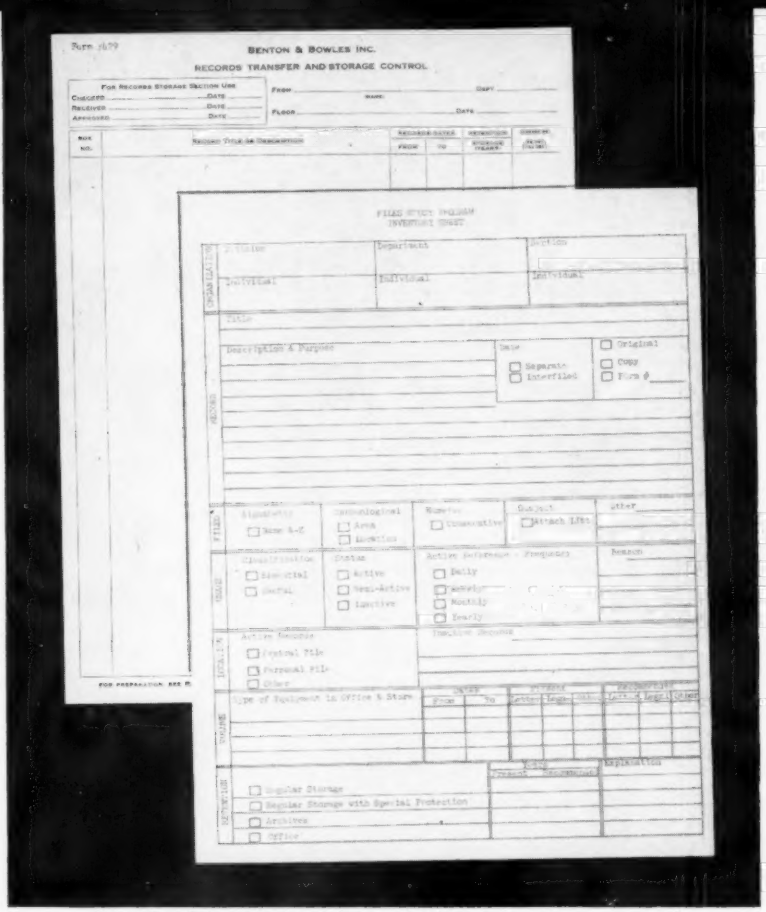
The answer to this question is found in a study of the records management program of Benton & Bowles, Inc., one of the country's largest advertising agencies.

Benton & Bowles was founded in 1929 and at the present has over 1,000 employees and bills in excess of $100,000,000 a year. Over the years the files had been weeded out periodically, but not according to any formal program. Many old records had accumulated to the point where they represented a storage problem. The vast amount of old records occupied valuable space in the agency's offices (then on Madison Avenue in New York City), in storage boxes in the basement, and also in an outside storage center in New Jersey.

After many years in the same location, the agency was planning to move its offices to a new location. It became imperative to establish a formal records retention schedule and to destroy all over-age records for better utilization of space in the new offices, and to save on moving costs.

There was also a real need to set up an efficient and useful standardized system of filing throughout the agency to facilitate training of personnel and to make it more convenient for secretaries and executives to find records easier and faster when they were in their new offices.

In 1956, Benton & Bowles hired a records administrator, Marjorie Hadden, who had several years of management consulting experience including record administration work for such companies as The New York Stock


BENTON & BOWLES INC.

RECORDS TRANSFER AND STORAGE CONTROL

Record and Storage Control Form, which covers all movements of records from active to semi-active status, and inventory form used to identify contents of each drawer in records center

Semi-active records covering period before 1957 are stored in center in sub-basement of agency's building

Exchange, the Port of New York Authority, on the personal campaign staff of President Eisenhower's office in 1951 and 1952, Sperry-Rand and Wheeldex Corporation. She was brought into the agency to completely re-vamp the records and set up an entirely new and efficient file system.

The Benton & Bowles organization

An explanation of Benton & Bowles' organization will help to better understand the problems inherent in its record setup. Account groups made up of the personnel who perform the contact between the agency and such clients as General Foods, Proctor & Gamble, Schick, Inc., Philip Morris, and many others represented a large proportion of the employees. In addition to the account groups whose files are composed mainly of general correspondence, media plans, schedules of advertisements and estimates of their cost, there are also the creative departments such as copy, art, media, TV production, research, etc. The normal accounting, office services and personnel departments complete the staff.

The first phase of the new program was to conduct a study to determine the operational functions, and the extent and location of the original records. Next, a legal retention schedule was established. After consulting with the agency's firm of lawyers, account group heads and department heads, the retention schedule was submitted to management for authorization to establish it as the standard for the whole agency.

Once the retention schedule was approved, all old records in storage, were reviewed and the over-age ones weeded out. The files in the New Jersey records storage center and in the basement of the office building yielded over 3,000,000 pieces of correspondence, accounting records, research questionnaires, and other material to be destroyed. This was all done before the move to new offices and saved over $2,000 in moving costs.

In order to standardize the filing equipment before the move, the different makes of file cabinets in use in the office were reviewed, and equipment in the various departments was

(*To page* 76)

Each group maintains its own active files. Personnel records supervisor Helen Keyes checks data for her group.

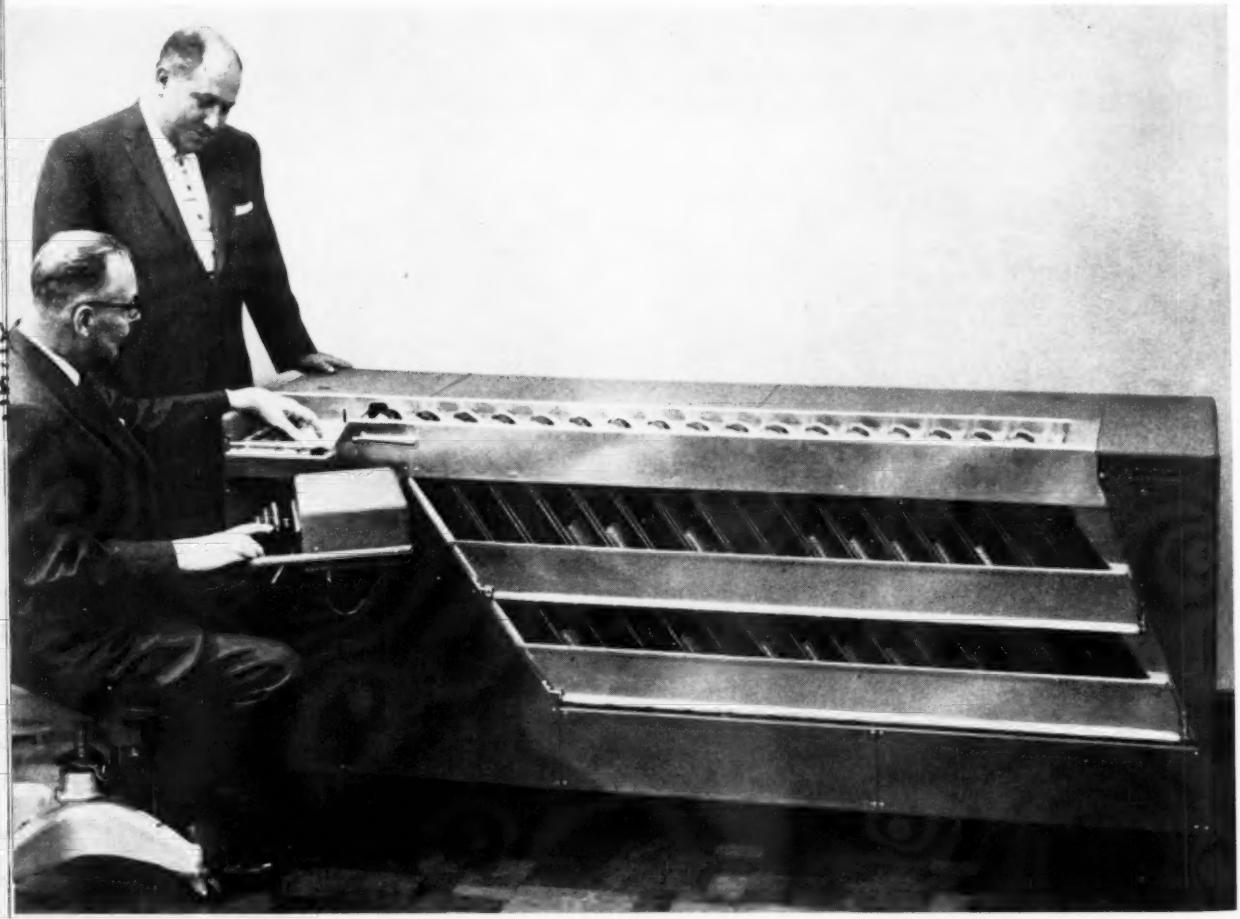
New mail sorting machine introduced; brokerage firm to install RCA 501 system

The Keytronic mail sorting machine, a keyboard-operated electronic device capable of sorting 6,000 mailing pieces per hour, will be available on the commercial market early in the fall, according to the manufacturer, Universal Business Machines of Columbia, South Carolina. Edward Lustig, president of Circulation Associates, Inc., New York, and Roynold Bensen, president of Bensen Business Equipment and New York representative for Universal Business Machines, collaborated in developing the new mail sorting device. Mr. Lustig said the Keytronic "will be the answer to one of direct mail production's greatest problems." The problem, according to Mr. Lustig, is the manual sorting of direct mail into individual post office breakdowns, required by bulk-rate postal regulations.

The Keytronic machine has 44 mail-receiving bins, each with a capacity of 180 mailing pieces. The mail is placed into a feed trough where an address code is read by the operator. A button is then punched on a typewriter-like keyboard which sends the piece into the desired bin. After mail is sorted into major geographical categories, another sorting run may be made for further and more detailed category distribution for breakdown into individual post office bundles.

The Keytronic is 10-feet in length, mounted on rolling castors, and is powered by standard 115 volt A.C. electricity. The standard version of the Keytronic will accept mailing pieces from 3 x 4-inch size, to the size of a number 10 envelope, at thicknesses up to ¼-inch. The standard 44-bin model will cost in the neighborhood of $12,000, the company announced. A smaller bin model will also be available, as well as models accommodating larger pieces of mail.

(*To page* 54)



Demonstrating the new Keytronic mail sorting machine are developers Revnold Bensen, president of Bensen Business Equipment (seated) and Edward Lustig, president of Circulation Associates, Inc.

Fabrilite® will keep looking this new for years!

VINYL UPHOLSTERY

The colors stay bright . . . soilings sponge clean. Years of wear merely mellow the beauty of Du Pont "Fabrilite"* vinyl upholstery. Even the strain of constant sitting won't mar "Fabrilite's" trimness. Join smart businessmen everywhere who have given their offices an up-to-date look with easy-care, long-wearing "Fabrilite". There's a color and a style that's right for you from the big array of textures and finishes.

Chairs shown from Art Metal Construction Co., 41 East 42nd St., New York 17, N. Y.

*"Fabrilite" is Du Pont's registered trademark for its elastic supported and coated vinyl upholstery.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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Friden Creates A New World For Business®

...so today's Office Automation Dollar buys a bigger "package"!

Computyper Model CTS integrates data processing

NEW!—an automation heart for your office!

Friden's tape-talking COMPUTYPER® Model CTS takes over the big office routines such as preparing invoices, sales orders, cost analyses, inventory... does more of these jobs *automatically* than ever before! By-product punched paper tape provides data from original writing to meet all needs without manual re-processing. Around this key automation unit your firm can plan, and expand, your own custom-built integrated data system, slash paperwork costs.

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Repetitive chores such as invoicing constitute a major workload and cost in every office. Yet these very chores, the volume routines, are the easiest of all to handle *automatically* with a Friden system. All Friden equipment is relatively low in cost and individual units can be combined to meet the special work-flow needs of any type office. Start with one Friden unit, then add another and another as *each pays for itself!* Friden automation units range from the astonishing Tape-Talk machines—the Computyper®, Flexowriter®, Teledata® and others of this group—to the brilliant Friden Calculator, *The Thinking Machine of American Business*, and Friden *Natural Way* Adding Machines.

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Automatic office operation is the Friden function—Call your Friden Man or write Friden Inc., San Leandro, California... sales, instruction and service throughout U.S. and the world.

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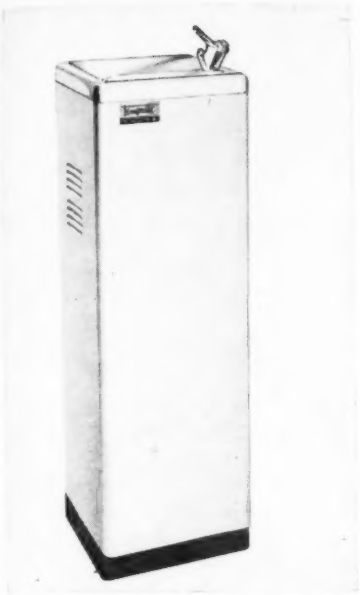
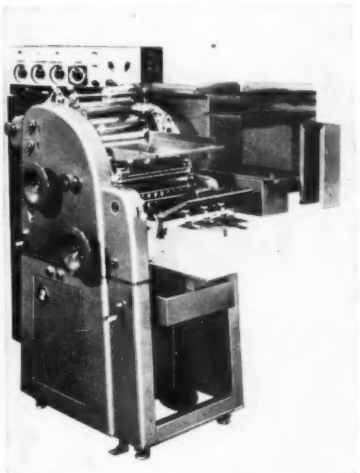
New for the office



▲ Water Cooler **A-1**

The Temprite Cadet Model PA-3SC, a compact pressure-type drinking water cooler, measures 12 inches square by 38 inches high. It has a cooling capacity to accommodate 36 office workers under standard rating conditions. *Temprite Products Corporation, Birmingham, Mich.*



▲ Check Imprinter **A-2**

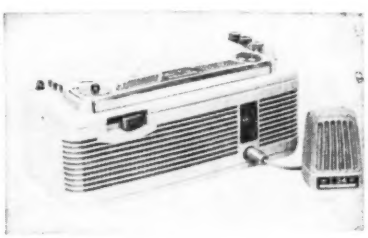
A new high-speed check imprinter, Model 366 will automatically imprint and collate at the rate of 1,000 checks per hour including deposit slips and reorder forms. The machine reduces manual operations from seven to two. *A. B. Dick Co., Chicago, Ill.*

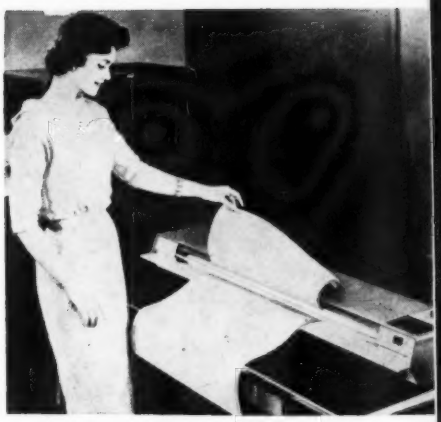
▲ Electric Stapler **A-3**

The Staplex S-54-H is a heavy-duty automatic electric stapling machine especially designed for applications requiring a heavy thrust. The device may be adjusted to a depth of 4¼ inches. *The Staplex Co., Brooklyn, N. Y.*

▼ Dictating Machine **A-4**

The new Geloso StenOtape Dictating Machine, Model G-256/60, is designed for use in the office for normal dictation work and in the home as a tape recorder. The unit has a single 1⅞ IPS speed and a frequency response of 80-6500 CPS. The unit weighs six and one-half pounds and retails for $179.95, tax included. *American Geloso Electronics, Inc., New York, N. Y.*





▲ Copying Machine **A-5**

Copyflex Model 42 is a compact diazotype copying unit for the rapid reproduction of engineering and construction prints. The machine can make tracings up to 42 inches wide. Measuring six and one-half inches by 12 inches deep and 56 inches long, the unit can be placed on a table or hung on a wall. *Charles Bruning Co., Inc., Mt. Prospect, Ill.*

▲ Check Signer **A-6**

An electrically operated Check Signer with all the features of larger models, has been compactly designed for use on the office desk. The device has a fool-proof signature plate engraved in solid brass. The plate can be removed in seconds or locked in position with a separate key to safeguard against fraud. *Roberts Numbering Machine Division, Brooklyn, N. Y.*

For further information, use Readers' Inquiry Coupon on page 82.

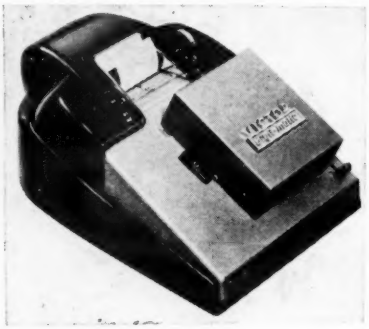
◀ Wireless Intercom **B-1**

A newly perfected wireless intercom, the Vocatron Model CC-60, measures three by eight by six inches. It plugs into any standard electrical outlet. Retail price is $54.75. *Vocaline Co., Old Saybrook, Conn.*

▲ Ribbon **B-5**

A new sturdy typewriter ribbon has been designed for the preparation of paper masters for printing and duplicating equipment. Made of Mylar plastic, backed with carbon, the ribbon is mainly for use with electric typewriters. *Davidson Corporation, Brooklyn, N. Y.*

New for the office

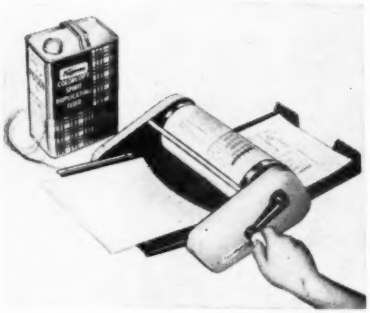


▲ Control System **B-2**

The Victor Data Transmission Control System, a monitor for verifying wire transmitted numerical data, provides a means of pinpointing and eliminating errors that occur in sending data over long lines. The basic component is a G Digit-Matic solenoid-operated adding machine. The Digit-Matic units are cable-connected at the transmitting and receiving points. *Victor Adding Machine Co., Chicago, Ill.*

▲ Addresser **B-6**

Model 70 Master Addresser has a speed of approximately 1200 mailing pieces an hour. Each pull of the handle advances envelope through moistening rolls and into printing position. The imprint is made by carbon transfer from a master tape. After print is made tape advances automatically, bringing a new address into position. Retails for $69.50. *Master Addresser Company, Minneapolis, Minn.*



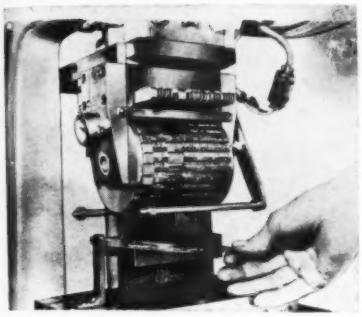
▲ Spirit Duplicator **B-4**

The Faymus Model D1 Spirit Duplicator features a light alloy stainless printing drum, a moistening device with cast metal felt holders, a large size slanting paper feed tray and an adjustable paper receiving tray. One turn of the operating handle produces one copy at a time. Priced at $79.95 plus tax. *Faymus Division, Bankers and Merchants, Inc., Chicago, Ill.*

▼ Electric Typewriter **B-3**

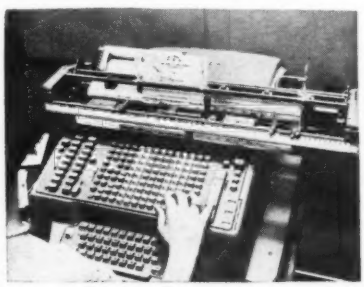
The Electra 12, Smith-Corona's new electric typewriter, is one-half the weight and one-half the cost of standard electrics now on the market. The new machine has a full-size keyboard and practically all the standard electric office typewriter features. It retails for $179.50. *Smith-Corona Marchant, Inc., Syracuse, N. Y.*

For further information, use Readers' Inquiry Coupon on page 82.



▲ **Stamping Head** **C-1**

The Acromark Hot Stamping Head 441 is the designation given a new 25 to 35 wheel numbering head that does trade mark and name stamping in any desired combination. It is provided with thermostatic heat control to maintain proper stamping temperatures. *The Acromark Co., Elizabeth, N. J.*

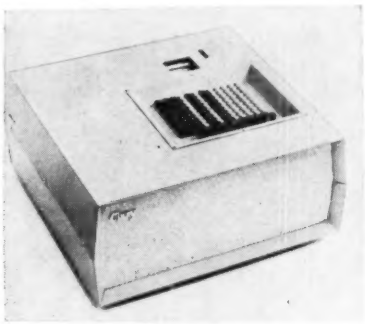


▲ **Accounting Machine** **C-2**

National Cash Register's three general bookkeeping plans for revolving credit are designed around the Class 31A accounting machine. In most cases, banks presently using the Class 31 accounting machine can adapt it to handle revolving credit bookkeeping by adding another program bar. *National Cash Register Co., Dayton, Ohio.*

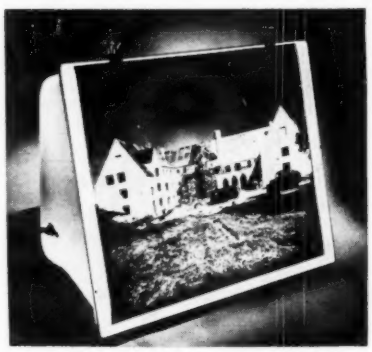
▼ **Scanning Printer** **C-3**

The Model 1961 Clary Scanning Printer has 12 digit decoding and printing capacity and will accept information from both decimal and binary-coded decimal sources. It works directly from logical levels and has a keyboard for entering supplemental data. *Electronics Division, Clary Corporation, San Gabriel, Calif.*



▼ **Viewer** **C-4**

A new combination viewer and light table has been developed for easy viewing of photographic transparencies or tracing drawings on a stencil. The unit weighs three pounds. The viewer with a plexiglas top is $19.95 and with flashed opal glass is $24.95. *Activ-Ad, Inc., Toledo, Ohio.*



◂ **Copyholder** **C-5**

Foldamatic Line-a-Time Copyholder feeds and handles single sheets of paper as well as typist's notebooks, cards, or large accounting statements. Variable height adjustment bars allow the unit to be raised or lowered to eye-level. *Remington Rand Division of Sperry Rand Corp., 315 Fourth Ave., New York 10.*

▲ **Home Intercom** **C-6**

Dynasonic design has been incorporated in the new Talk-A-Phone transistorized home intercom-radio system. The new feature makes the system adaptable for use in any room in the house. *Talk-A-Phone Co., Chicago, Ill.*

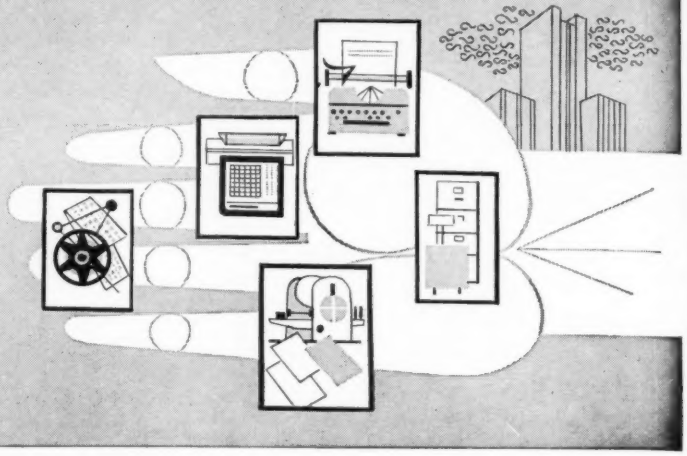
▲ **Vacuum Cleaner** **C-7**

A new model of the Pullman heavy duty vacuum cleaner, the JB 365 CV, has a 1½ horsepower 3-stage, bypass (self cooling) motor. The model can be converted into a blower in two seconds. *Pullman Vacuum Cleaner Corporation, Boston, Mass.*

For further information, use Readers' Inquiry Coupon on page 82.

A Monthly Feature

Tools of the Office



Adding and calculating machines; bookkeeping and accounting machines, systems and equipment (including tables, charts, scales)

by Mary D. Lyons

ONE encyclopedia describes the adding machine as follows:

"The adding machine is an apparatus which is used to add numbers. Although some adding machines can be used for multiplication and division, they are not as useful in these operations as the calculating machine is. Adding machines may be operated electrically or by means of a hand lever. Adding machines are important because they speed up bookkeeping in business offices."

It seems unfair that so ponderous a definition should be applied to a machine with such a colorful past. Poetry has been written, and songs have been sung about the adding machine. It was even the title of a famous play by Elmer Rice, produced in 1956 at the Phoenix Theatre in New York.

The abacus was probably the first known calculating device. It was used by the ancient Greeks, Romans, Egyptians, Hindus, and Mexicans, and is still commercially used in the Orient.

The abacus consists of a board in which parallel grooves are cut to contain pebbles, or it may be a rectangular frame of wires in which beads are strung, like the "schety" of Russia, and the "suan-pan" of China.

The "soroban" or Japanese abacus is one of the first objects to attract the foreigner or tourist in Japan. He buys at some shop a few trifling articles, and sums up the total cost in his head. But the Japanese tradesman refuses to bother with mental arithmetic, no matter how simple. He, instead, seizes his "soroban," prepares it by a tilt and a rattling sweep of his hand, makes a few rapid clicking adjustments, and names the price.

The Orient, however, is now about the only place in the world where the abacus is really in wide usage, although, it is again being used in American schools to help students understand the place value in the number system. The abacus has also been adapted to teach blind children how to add and subtract.

Machines had early origin

The history of the development of calculating machines is interesting because of the long interplay between science, technology, and business.

In 1642, Blaise Pascal built a machine to perform addition by using the adding wheel as the basic unit, and in 1693, Gottfried Wilhelm von Leibnitz built a desk calculator capable of multiplying numbers.

Although these devices contained the basic principles of some of our modern computing machines, two hundred years elapsed before they were sufficiently developed and mass produced to become extensively used in computation.

While these simpler machines were still in their early development, Charles Babbage, in England, proposed the construction of two much more ambitious machines.

Babbage, who was an eccentric genius, and also an English mathematician and scientist, first broached the idea of a calculating machine in 1822.

It was through the recommendation of the Royal Society, of which he was a fellow, that he received a sizeable grant from the government for the construction of such a machine.

The letter which Babbage in 1822 wrote to Sir Humphrey Davy, President of the Royal Society, requesting the recommendation is quite famous.

The following excerpt from that letter perhaps expresses one of the reasons Babbage undertook the construction of such a machine.

"The intolerable labour and fatiguing monotony of a continued repetition of similar arithmetical calculations, first excited the desire, and afterwards suggested the idea of a machine, which, by the aid of gravity or any other moving power, should become a substitute for one of the lowest operations of human intellect."

Although Babbage did receive the desired recommendation, and the subsequent grant from the government, he unfortunately abandoned his undertaking after a series of experiments lasting eight years, during which time he spent a great deal of the British

government's, as well as his own, money

Babbage then began working on a much more complex device, an analytical machine, which worked with cards, like the Jacquard loom.

However, the government, alarmed at the probable demands, refused to support Babbage in his new project, and the machine was never completed.

It was finally presented in 1943 to the King's College Museum, London, and was subsequently preserved in the South Kensington Museum.

Babbage's first machine which he called a "difference engine" was designed for the construction and printing of mathematical tables; the second, an "analytical engine," was designed for general scientific calculations.

One or two "difference engines" were built by others in the following decades, but they were not used extensively. The "analytical engine" waited until the present century; the execution of the necessary facilities for reading, storing, recording, and control were beyond the capabilities of the times.

Machines are tireless, accurate

What exactly calculators do may seem very mysterious, but such machines actually do nothing more than a man or woman who is good at arithmetic can do, except that they do it much more rapidly, more accurately, and without getting tired. The calculation as a whole seems complicated, but observed closely, it really consists of nothing more than a series of simple, basic operations.

In elementary arithmetic, with a pencil and paper, we learn to form the sum difference, product, or quotient of two numbers of any reasonable size. And machines that perform all four arithmetic operations are now in everyday use.

In order to have a machine perform an arithmetic operation, it is necessary to supply it with two numbers and to instruct it to perform the required operation.

In the simplest machines the operator inserts the numbers by means of a keyboard, and he initiates the desired operation by striking the appropriate operation control key.

When the operation is completed, the result may appear on dials where the operator can read it and copy it onto his computing sheet. In some machines, the result, as well as the individual factors, may be printed automatically on a paper ribbon.

With such machines, the operator need perform no arithmetic operations. His responsibility is to insert the proper factors and to press the required control key for each operation. If the machine has no printing attachment, he must also transcribe the result.

Small, portable machines with keyboard operation are now manufactured on many assembly lines in this country and abroad, and they are part of the regular equipment of most business offices, and scientific and engineering laboratories.

Those that are limited to addition and subtraction are called adding machines, and those which perform multiplication and division are called desk calculators.

In some of them, the driving power is supplied by the operator, but most of them are equipped with a motor that provides the power when the control buttons are depressed.

The actual arithmetic operations of these are accomplished by means of mechanical devices as distinct from electrical or electronic.

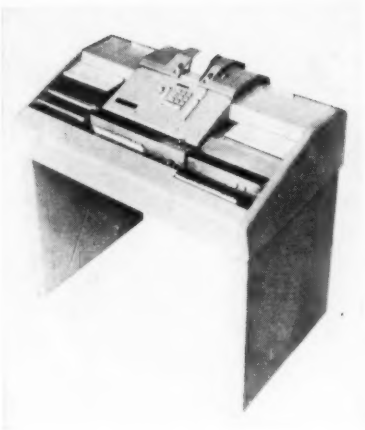
Most of the adding machines have automatic printing devices which print the factors and the results, whereas the results from the calculators appear on dials and are read off by the operator.

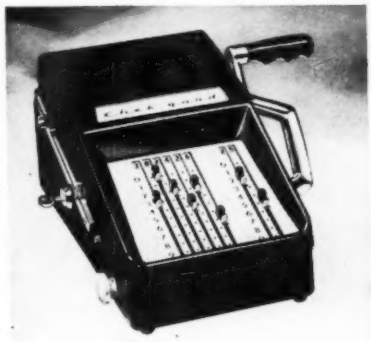
Some of the printing-adding machines can be used for multiplication and division, but their speed and capacity in this work are, in general, not equal to the non-printing calculators.

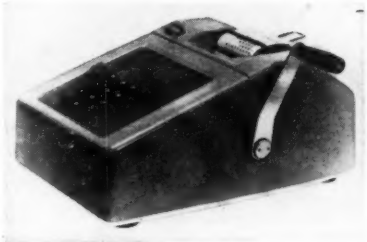
One might think that the simple adding machine and other such standard equipment have rather a shaky future in view of the constantly growing emphasis upon the "automatic office." However, it does not seem likely that old stand-bys such as adding, calculating, bookkeeping, and accounting machines will be superseded at any time in the near future, if ever, by high-powered electronic data processing equipment.

In all probability, standard office equipment will forever play an important role in the day-to-day routines of offices of all sizes. One good reason for this premise is the fact that in spite of the efficient systems programmed into various IDP equipment, tasks of exceptional nature continue to exist, and standard office machines are of infinite worth in these circumstances.

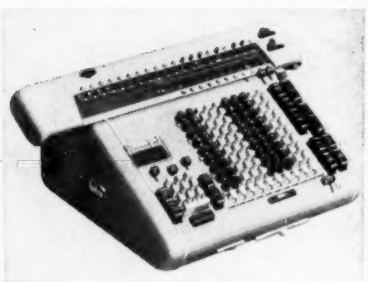
Furthermore, a great many of the nation's offices still do not use any







It is not likely that standard office equipment of this type will be replaced in the near future by more complex devices. Above — Royal McBee's Keysort Tab Punch; Victor's 10-key Adding Machine; Safeguard's Mark II Checkwriter; and Facit's Model H-9S portable hand-operated Odhner adding machine.



The onrush of complex office equipment has not replaced standard machines, except in those instances where the standard units were not capable of performing their duties at the speeds required. What has happened, instead, is that the variety of equipment has been made so vast, that each office has a better chance than before of acquiring exactly the kind of equipment, whether large, medium-sized, or small, that it needs. Units shown are, from top to bottom, Monroe's eight-register bookkeeping machine of the "President" series, which has two mechanical registers and eight electro-mechanical registers; Comptometer's Comptograph, Model 220-WS, which has wide automatic shuttle carriage for listing two columns of figures; shuttle travel is adjustable to four widths, and will list automatically reference figures at left, and list and add figures in right hand column; and Friden's calculator, Model SBT, which is fully automatic, and offers chain multiplication and grand total accumulation.

IDP equipment at all, and standard machines are, naturally, the major "tools" of these offices.

Thus, the revolutionary onrush of complex office equipment has not replaced standard machines, except in those instances where the standards were not actually capable of performing their duties at the speeds required. What has happened, instead, is that the variety of equipment has been made so vast, that each office has a better chance than before of acquiring exactly the kind of equipment—whether large, medium sized, or small—that it needs. In order to determine what its needs actually are, the office must, of course, turn to systems study.

Standard adding, calculating, bookkeeping, and accounting machines, not to be left behind in this age of mechanization, are developing on their own. New features which simplify their operation or increase their capacity are constantly being acquired.

It is unlikely that the mechanical speed of this equipment can be increased to any appreciable degree. However, it is possible to accomplish more and more steps automatically on even very small equipment. Obviously, most figuring, including multiplying and dividing, can be broken down into a form of addition or subtraction. What distinguishes the more complex machines from the smaller ones is the degree to which the necessary intermediate steps in the figuring operation can be accomplished automatically.

On an adding machine, therefore, multiplication may be performed by repeated addition. On a calculator, the multiplier may be entered on a separate keyboard, so that the operator has less work to do, and fewer opportunities to err.

Calculators are able to handle a variety of assignments. In fact, calculators may often be quite complicated; aside from their regular duties, some are capable of extracting square roots, and can compute in the binary numbering system. Calculators may also feature a memory unit and recall keys, and the automatic positioning of decimal points.

The primary factor, which distinguishes bookkeeping and accounting machines from adding machines and calculators, is their ability to enter descriptive information. Such information may range from simple codes or date information to complete descriptions. An adding machine can be made to do some descriptive work by the use of the non-add key in connection with numerical codes. The descriptive feature, however, is usually reserved for bookkeeping and accounting equipment, and its capacity may range from a few simple keys to a complete typewriter keyboard.

Moreover, bookkeeping and accounting machines often have more than one register in which to accumulate totals. Naturally, the more registers, the more complicated the machine, and the greater the variety of work it can do.

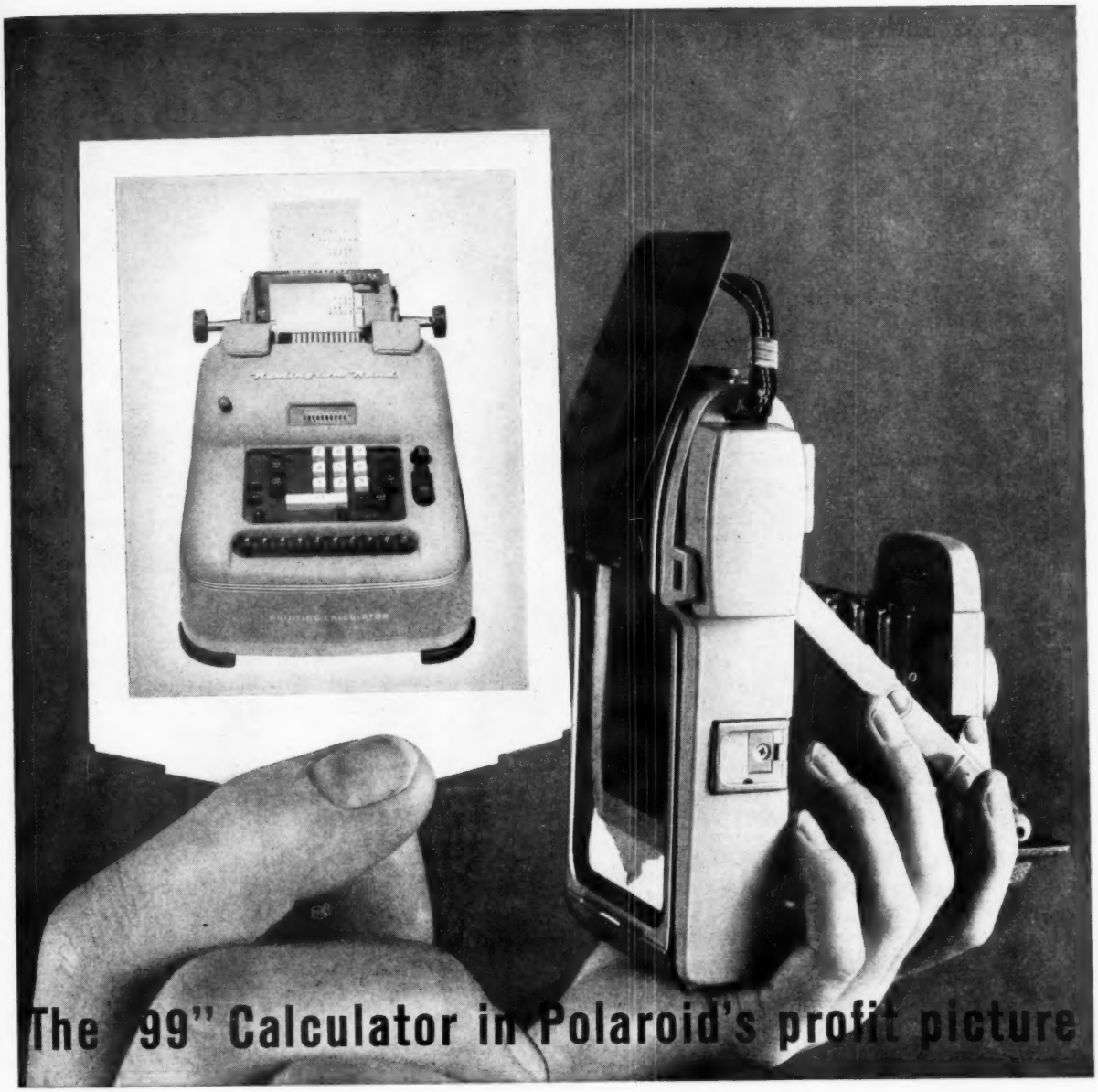
Certain features of integrated data processing have been incorporated into what are otherwise standard office units. Some of these machines have been equipped to produce a common language record of their operations. For example, an adding machine may produce a punched paper tape as a by-product of normal figuring. Or, a bookkeeping machine may be connected to a card punch. By such methods, conventional equipment can be made part of large systems in which data can be recorded by one machine in a form which can be processed automatically by another.

Emphasis on Systematization

The most recent developments in office work procedures today include greater mechanization in general, increased study of this work to determine which parts are routine, and which parts are of an infrequent, occasional nature, and greater concentration upon systems planning; and also, careful appraisal of the routines to which the various equipment will be applied.

A great number of management executives are aware of the boons offered by mechanization; and as a result, more and more processing of repetitive work is being handled by some type of systematized machinery. Most offices are not large enough to justify the installation of large machines, and so routine work must be accomplished within the capacities of the less complicated machinery which is available.

It would be impractical, of course, to purchase machines first, and then afterwards, attempt to make the work fit them, but it is necessary to understand what types of work may be expected from those machines now on the market, and to determine the best combination of working method and



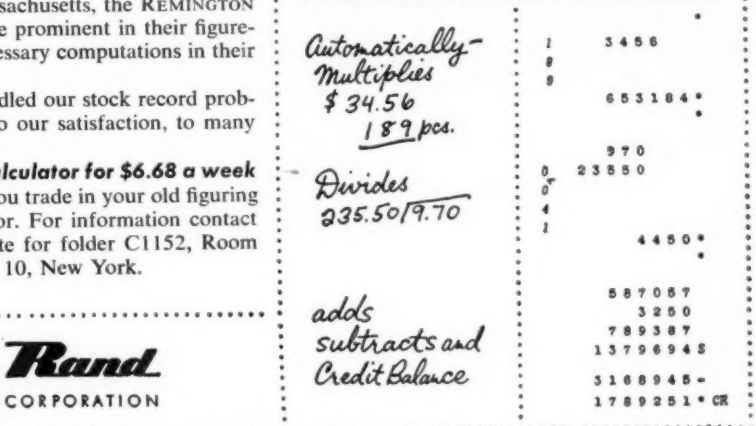
At Polaroid Corporation, Cambridge, Massachusetts, the REMINGTON RAND "99" Printing Calculator has become prominent in their figure-work picture. Notably, it eliminated unnecessary computations in their running inventory records.

Polaroid officials report, "The "99" handled our stock record problem so well that we now apply it, much to our satisfaction, to many other phases of our figurework."

Did you know you can buy a "99" Calculator for $6.68 a week after down payment? Much less when you trade in your old figuring machine or obsolete non-printing calculator. For information contact your local Remington Rand Office or write for folder C1152, Room 1817, 315 Park Avenue South, New York 10, New York.

Remington Rand
DIVISION OF SPERRY RAND CORPORATION

THE PROOF IS ON THE TAPE



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Shaw-Walker's Simplified Accounting Plan consists of board to hold forms in alignment, and precision register to eliminate overlapping figures

machine. Since standard machines do offer such a vast variety of capacities and features, it is possible to develop many efficient systems and to coordinate them with the appropriate machines.

Therefore, it seems logical to assume that there will always be office jobs large enough to make use of equipment of any size, jobs neither so small as to waste the capacity of the equipment, nor so large as to tie up the machine department. Also, since the special province of the machine is routine work, exceptions must always be handled individually. For although a large computer installation can be programmed to handle many exceptions to routine without disrupting the work flow, exceptions beyond its capacity must be handled by human agency. And many times the adding or calculating machine proves an essential aid in exception problem-solving.

Another consideration is the importance of standard equipment in preparing input material for feeding into the computer. The accuracy of input data has a direct bearing on the efficient operation of the largest data processor, and speed and accuracy are characteristics of standard accounting equipment when the operator is skilled and experienced.

The result of high-powered mechanization may very well be an increase in the variety of jobs handled by the operator of standard machines, since these will be utilized in exceptional cases where individual decision-making and judgment are of primary concern. Also, consignment of much of the office's repetitive work to the computer will relieve the standard machine operator of monotony, and give to her the opportunity to handle work of a more challenging nature.

"One-writing" and other bookkeeping and accounting systems are other examples of long-established, standard office equipment. "One-writing" equipment is designed to permit the writing of several accounting forms simultaneously. One places the forms one above the other in such an alignment that items written on the top form can be transferred to the forms beneath by means of carbon. This makes it possible to create several different forms that use identical information.

In most instances, only selected items should appear on each form, and provisions are made for prevention of transfer of unwanted data or items. This is accomplished through the use of spot carbon, or by providing an area printed with a heavy design upon which data, although copied by carbon, is illegible on the copies. Certain forms in addition can extend beyond the edges of other forms when properly aligned, so that material which is not to be copied can be placed on the portions which do not overlap. There are, of course, other methods which are used to produce and maintain neat, efficient bookkeeping forms.

Successful arrangements of one-writing accounting system forms rest upon three factors—proper form design, so that information can be recorded in the necessary number of places with a minimum of effort in writing the form and in using the completed form; appropriate use of carbon paper or spot carbon; and provision for a suitable device for holding a set of forms in proper registration. Each of these essentials is taken into careful consideration by the manufacturers of the equipment and forms.

Various devices used

However, the device used to accommodate the forms may be of several types. One such design, called the pegboard, consists basically of a flat writing surface which has been equipped with pegs or other means for holding the forms in registration. This type is usually equipped with some mechanical device for advancing from one set of forms to the next upon the completion of each set. This can be accomplished through the use of a ratchet and lever system; sometimes the board is actually a box with a roller system for mounting and advancing one or more of the forms after use.

Identical results can, of course, be achieved without the use of a board. Some type of loose-leaf binder or other book-enclosed device can be used to hold the forms in alignment—the same principle is used in some kinds of machine bookkeeping, with several forms being printed at once. The latter method, however, is not generally referred to as a one-writing system, since this usually implies manual methods.

Most of the one-writing systems are used in small companies or in the small departments of large companies, for such applications as payroll, accounts receivable and payable, and inventory. The distinguishing factor between one application and another lies in the selection of forms, rather than in the design of the basic equipment.

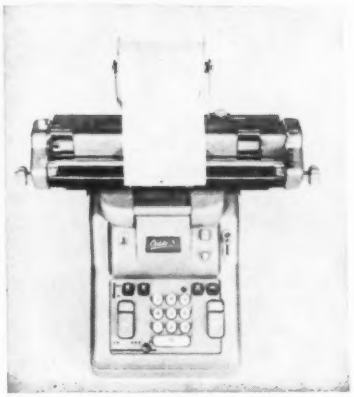
Reports from manufacturers suggest that wider applications are under development, and that specialized systems, aside from the one-writing variety, are increasing in popularity.

Philosophy influenced machine growth

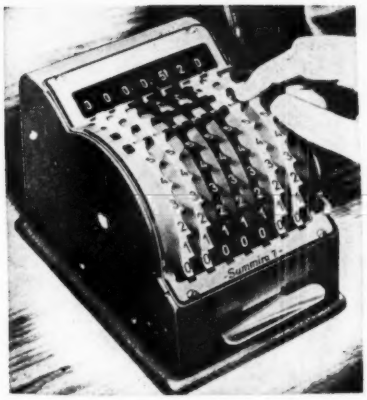
Another important factor which led to the development of adding and calculating machines was the great rise of interest in natural philosophy in western Europe during the 17th Century. With the predictive abilities of the new physical theories of Galileo, Kepler, Descartes, Newton, and others, there came a real desire to use these theories, and this called for substantial calculating.

In the early part of the 17th century, a man by the name of John Napier invented the logarithm, which made the task of multiplying very much simpler. As a matter of fact, the mechanizing of his logarithms led to the development of a whole new class of calculating machines called analog or measurement devices. Napier also developed a physical device for speeding up the multiplication of numbers, since named "Napier's bones," which was widely used in the 17th century, and can still be seen in various museums.

In addition to Babbage, there were other men who made attempts to produce a reliable machine for commercial use in the 19th century. In 1820, an instrument, which sold quite widely, was invented by Charles Xavier



Model 541-30 adding machine by Addo-x has three-position shuttle carriage



Pictured above is Summira Adding Machine by Fremaco International

Monroe 600, above, is example of Monroe's wide-carriage adding machines

Thomas. And during the last quarter of the century, Frank Stephen Baldwin, and independently, W. T. Odhner, designed machines using a new type of wheel, which made possible a more compact machine; about the same time, A. Burkhardt also developed a machine. These inventions were actually the parents of our modern desk calculators.

It is interesting to realize just how sophisticated these early machines really were; they were quite capable of "understanding" a fair number of "instructions" among other things, and they could perform at command the familiar processes of addition, subtraction, multiplication, and division, as well as the operations of multiplying or dividing by powers of ten, by shifting numbers left or right. They could also store the result of an operation on counter wheels visible to the operator, and data could be introduced by means of keys on a board.

During the 19th Century great advances in mathematical physics were made, and with these came renewed pressures for better calculating instruments. To avoid the problems run into by Babbage, Sir William Thomson (later Lord Kelvin) conceived a new idea for a machine. His machine was not a digital, but depended upon finding and using a physical apparatus which when operated gave an output proportional the desired mathematical operation.

Analog machines are rapid

Such devices are called either analog machines, since the physical apparatus is in a sense analogous to mathematical operations, or measurement machines, since the results are obtained by measuring the output of the apparatus. (These were also called continuous machines by Kelvin.) Devices of this category can be fairly rapid although they are inherently not terribly precise since they must rely upon physical analogies and physical measurements.

However, here again, technological difficulties delayed the perfection of a large-scale machine for solving differential equations and embodying Kelvin's ideas, until Vannevar Bush and his associates at the Massachusetts Institute of Technology developed and placed in operation the first differential analyzer in 1930. Kelvin did, however, build the first automatic machine for calculating tidal motions using the disk-ball-cylinder integrator invented by his brother, James Thomson, in 1876. He said, "The object of this machine is to substitute brass for brain in the great mechanical labour of calculating. . . ."

His interest in machines extended over a long period of time and formed the subject of a number of papers. In this interest, he was joined by J. Clerk Maxwell and others.

In carrying out a calculation, man performs three distinct functions which must be incorporated into any automatic machine: (1) He must, first of all, perform basic arithmetic operations; these might be the addition, subtraction, multiplication and division processes; (2) he must read from instruction sheets what he is to do next, e.g., take the number in column one of his work sheet, multiply it by the quantity he has just produced, and store the result in column two; (3) he must store his initial, intermediate, and final results, as well as his instructions on sheets of paper or otherwise.

In the machines preceding Babbage's analytical engine and Kelvin's tidal analyzer, the only portion of the human process of operations that was automatized was the arithmetic portion.

Shown above is Victor's new solenoid actuated Digit-Matic Calculator

This advance was a great one, in that it freed men from the drudgery of multiplication, it was more accurate than man, and it was faster. Nevertheless, it left the other portions of the process in human hands. The differential analyzer of Bush automatized the entire process and was thus the first operative fully automatic calculating instrument which could be programmed to do different types of problems. And it had a fourth feature, not required by the human operator —an input-output.

What a vast difference exists between the first simple abacus and the highly mechanized calculating machine of today. It would be interesting to divine what new changes tomorrow will bring to the adding machine, the calculator, the bookkeeping, and the accounting machine. One thing is certain—that in spite of changes—in spite of complex and revolutionary mechanical improvements, these types of standard equipment will always be the stable and reliable "old friends" of every office.

Tools of the Office

The following list offers a brief description of such equipment on the market. It must be noted that such equipment is extensive, and the descriptions offered cannot begin to cover the technical details that distinguish one machine from another. Basically, the list is designed to act as a guide for those who wish to enter into further research on such equipment.

The Manufacturers

Adding and Calculating Machines

Addo-X, Inc., 300 Park Ave., New York 22. Firm has manufactured three varieties of adding machines, including a 10-key non-printing manual model, an electric 10-key printing, and an electric 10-key non-printing model. Also, two models of calculators; one, an electric 10-key printing; the other, an electric 10-key non-printing model. Firm's automatic multiplier (Model 2341E) is equipped with extra keyboard for automatic "short-cut" multiplication.

R. C. Allen Business Machines, Inc., 678 Front Ave., N. W., Grand Rapids 4, Mich. Allen has offered a selection of manual and electric adding machines, as well as a full-keyboard electric calculator. Features of the firm's 10-key machines have included memory and recall keys; credit balance; single, double and triple ciphers; direct subtraction; and automatic stepover multiplication. Full-keyboard machines have featured credit balance, direct subtraction, automatic clear signal, and automatic space-up total.

Alma Office Machine Corp., 34 E. 30th St., New York 16. Firm offers the Everest line which includes two electric 10-key, printing machines, the M 58 and the Multarapid "S". The M 58 is an adding machine with automatic credit balance, and is priced at $269. The Multarapid "S" features fully automatic multiplication and automatic credit balance, and is priced at $375. Also, the Everest M 4 which performs five operations — addition, subtraction, multiplication, division, and credit balance. Machine automatically prints decimal point in correct position, and is priced at $475.

American Voss Corp., 18050 James Couzens Highway, Detroit 35. Firm has offered the Voss line, which includes one manual 10-key printing, 2 electric 10-key printing and one 10-key printing 2-total adding machine, which is a duplex type, with 2 registers.

Bohn Duplicator Corp., 444 Fourth Ave., New York 16. Firm has offered one model of the BDC Contex manual 10-key non-printing calculator. Features include keyboard locking device to prevent error, and portability.

Burroughs Corp., 6071 Second Ave., Detroit 32. The Burroughs line has offered 47 models of adding machines including the "Thriftline" manual full-keyboard type, electric printing machines with 10-key keyboards; the "Director" electric full-keyboard models, and validating and receipting cash registers. Firm has also offered calculators consisting of 3 manually-operated full-keyboard models and 4 electric full-keyboard machines.

Calculator Equipment Corp., 556 Central Ave., Orange, N. J. Firm has offered three models of the "Scotsman" calculator. Machines are designed for a variety of work loads for both large and small businesses.

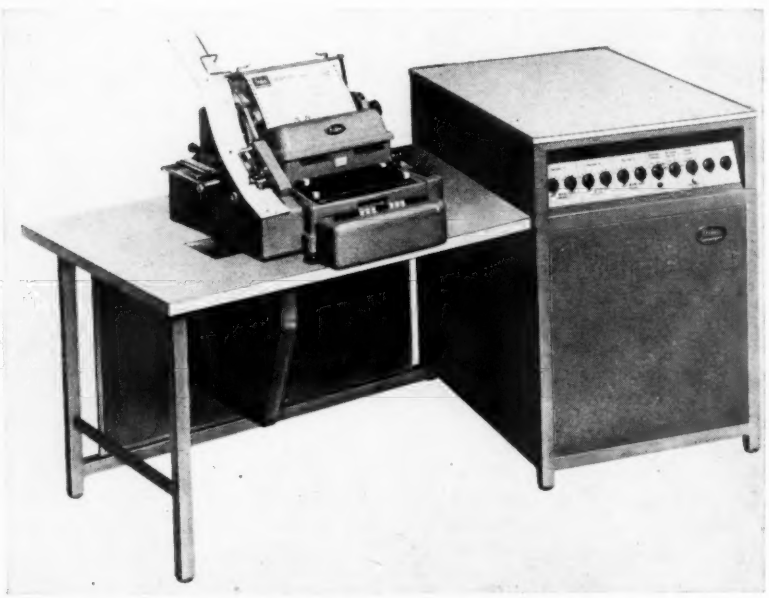
Clary Corp., 408 Junipero St., San Gabriel, Calif. Firm has offered eight models of Clary adding machines, and one Clary electric full-keyboard calculator. Adding machines are of the manual full-keyboard, electric 10-key printing and electric full-keyboard variety.

Classic Calculators, Inc., 387 Fourth Ave., New York 16. The Classic line has included electric printing calculators with 10-key keyboards.

Comptometer Corp., 1735 N. Paulina St., Chicago 22. The Comptograph and Comptometer lines include a variety of manual and electric adding machines and calculators. The Comptometer adding-calculating machines are electric, non-electric, key-driven, non-listing calculators in sizes from 5 to 20 columns. Comptograph calculating-adding machines are electric, 10-key listing machines available in different types. Price ranges: adding machines, $315 to $645; calculators, $265 to $1100.

Control Systems, Inc., 5 Beekman St., New York 38. The Plus line includes 3 models of adding machines and 10 of calculators. The Plus Adders have three different capacities. These machines provide just that part of a Comptometer type calculating machine keyboard used for adding. Plus Calculators are keydrive calculators with three different capacities. They may be manual, Simplex electric, or Duplex electric. Plus-O-Matic Calculators are available in Simplex electric and Duplex electric models, and have two different capacities. Plus Diehl Calculators are full-keyboard, live multiplier rotary calculating machines, with short-cut multiplication; back transfers, and memory registers.

Facit, Inc., 404 Fourth Ave., New York 16. Firm offers Mitey-Add and Odhner lines of manual adding machines with price range of $114.50 to



Pictured above is Friden's new Computyper Model CTS, an automatic writing-computing machine which can be operated by tape or cards

E. W. VALENSI, PRESIDENT,
North American Refractories Company, Cleveland, Ohio.

EMPLOYEES APPRECIATE NATIONAL'S easy automatic operation which reduces fatigue and increases work output.

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"Our *National* Data Recording System saves us $23,385 a year... returns 112% annually on our investment!"

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"Current, accurate accounting records and prompt, detailed reports are absolutely essential for efficient, profitable operation today. That is why we installed the National 31 with punched paper tape recorder to capture distribution data and simplify its processing.

"We also utilize our National High Production Payroll Machine with Automatic Tax Computer to quickly provide the accurate payroll records and reports so important to the proper management of our business.

"The National Machines simplify data processing and quickly provide the accurate records and reports so essential to proper management of our business. We estimate our National Machines save us $23,385 a year, thereby returning approximately 112% annually on our investment."

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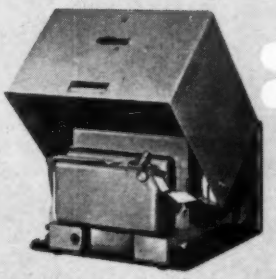
President
North American Refractories Company

1881 National 75 YEARS 1959



National's punched paper tape recorder is used with the Class 31 (machine in foreground) to capture distribution data . . . as an automatic by-product of posting the accounts payable hard-copy records.

Your local National representative will be glad to show you this simple approach to efficient data processing. Phone him now — it could be the most profitable call you will make all year.

*TRADE MARK REG. U. S. PAT. OFF.

National*

ACCOUNTING MACHINES
ADDING MACHINES • CASH REGISTERS
NCR PAPER (NO CARBON REQUIRED)

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio
1039 OFFICES IN 121 COUNTRIES • 75 YEARS OF HELPING BUSINESS SAVE MONEY

Use Readers' Inquiry Coupon on Page 82

Pictured above is adding machine from Everest line by Alma

$385. Also, Facit and Original-Odhner lines of calculators with price range of $215 to $525.

Fremaco International, Inc., 188 W. Randolph St., Chicago 1. Firm has Summira line which includes 2 manual full-keyboard machines with price range from $30 to $70.

The General-Gilbert Corp., 150 Broadway, New York 38. The General line offers 4 models of electric adding machines. Model 407 which adds and multiplies is priced at $109. Model 408 which adds and subtracts automatically is priced at $149. Model 409 which adds, multiplies, divides, and subtracts, is priced at $179. Model 811 which features a credit balance is priced at $249.

Johnston Adding Machine Co., 13343 Sherman Way, N. Hollywood, Calif. Firm has marketed a line of 10-key adding machines, both manual and electric.

Lanston Monotoype Co., Div. of Lanston Industries, Inc., 24th & Locust Sts., Philadelphia 1. Firm has offered Barret line including 2 models of 10-key printing adding machines, one manual and one electric. Features of 10-key desk adder include direct subtraction, visible dials, automatic shift and multiply key. It also provides printed tape and has non-print feature.

Lighting Adding Machine Sales Co., 2306 W. Slauson Ave., Los Angeles 43. Firm has manufactured the Lightning adding machine, a small portable stylus-operated model.

Marchant Calculators, Div. of Smith-Corona Marchant, Inc., 6701 San Pablo Ave., Oakland 8, Calif. The Marchant adding machine features 10-column listing, 11-column totaling. It is priced at $340. The Marchant calculating line includes 8 models of the electric, full-keyboard type. Price range is from $475 to $985. Deci-Magic machines feature the complete automatic positioning of decimals and carriage dials. Twin-set Figurematic machines feature double entries in keyboard dials as a result of single entry in the keyboard. The design permits grand total accumulation and individual extensions to be registered simultaneously from single entries. Marchant's new "Transflo" calculator is an all-electric, fully automatic model of 10x11x20 capacity and a speed of 1300 counts per minute. Its "figure flow" operation makes possible duplex and triplex calculations, multifactor multiplication, and any number and combination of consecutive calculations. With back transfer as a focal feature, the "Transflo" transfers, stores and recalls products, individual totals, individual subtotals, accumulated grand totals, and the intermediate results in any problem. A single touch of the back transfer key clears all dials and transfers the figures from

Pictured above is 10-key adding machine by Victor

any ten consecutive lower carriage dials to the keyboard dials, in direct alignment. The amount thus transferred to the keyboard dials can be used as a multiplicand, addend, minuend, subtrahend, dividend, or divisor. In multifactor multiplication, each successive product is automatically re-entered in the keyboard as the next multiplicand.

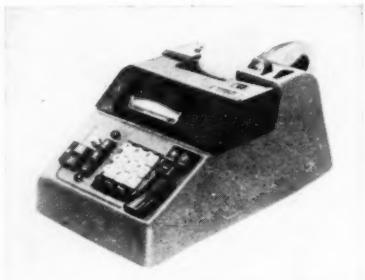
Monroe Calculating Machine Co., Inc., 555 Mitchell St., Orange, N. J. Firm manufactures adding machines in a wide variety of styles, including manual and electric models, full-keyboard and 10-key models. Price range is approximately from $149 to $900. The calculating line consists of about 17 models of the manual full-keyboard and electric full-keyboard varieties. Price range is from under $200 to over $1200. The Monro-Matics, automatic calculators, feature single-key board entry for all factors. Some machines automatically add as they multiply or divide, and store individual answers for use in subsequent computations.

The National Cash Register Co., Main & K Sts., Dayton 9, Ohio. NCR has offered an extensive line of adding machines which includes both manual and electric models. Full-keyboard models are available. Certain machines feature "live" keyboard, in which the amount keys serve as their own motor bars to speed figuring. In the realm of IDP, some adding machines are wired for linkage with either a punched paper tape recorder or a card punch for recording data in machine-sensible form as a by-product of standard computation.

Olivetti Corporation of America, 375 Park Avenue, New York, N. Y. Firm's line includes the Electrosumma 22, an electric adding machine with 10-key keyboard, speed of 220 cycles, and capacity of 12/13; the Multisumma 22, an electric adding machine with automatic multiplication, 10-key keyboard, and capacity of 12/13; Divisumma 24, high speed, automatic, rotary printing calculator with one register, capacity of 12/13; Tetractys, high speed, automatic, rotary printing calculator with two registers, and capacity of 12/13. Price range of adding machines is from $188 to $348. Price range of calculating machines is from $675 to $875.

Olkon Research Corp. of America, P. O. Box 3049, Asheville, N. C. Olkon has offered a line af adding machines, including both manual and electric models with 10-key keyboards, which print results of computation on tape.

Regna Cash Registers, Inc., 175 Fifth Ave., New York 10. Regna supplies both manual and electric adding machines of various types. Regna's



Olivetti's Multisumma 22 is rapid adding machine with credit balance

"Quiet Model" is an adding listing machine. Also, Regna's "Double Two"; and the "Ten-Key" Regna which features a control device just above the keyboard. If the operator is interrupted, a glance at this control will ascertain whether or not the desired number of figures have been transferred to the accumulator.

Remington Rand, Div. of Sperry Rand Corp., 315 Fourth Ave., New York 10. An extensive line of manual and electric adding and calculating equipment is offered by Remington Rand. Included are the "71" manual adding machine which lists and totals automatically, sub-totals, and multiplies; Model "3" electric adding machine has new "contemporary" styling with emphasis on the hand-span keyboard. Machine lists and totals automatically, sub-totals, multiplies, subtracts. Direct credit balance optional; Model "2" non-electric adding machine has same advanced styling and design outlined for Model "3", but is manually operated. The DX-94 electric adding machine provides many calculator benefits such as fully automatic division and rapid single-lever multiplication, addition, subtraction, and credit balance. It features special controls for tabulating numbers, decimal location, and combined operations. Price range of adding machines is from $99.50 to $455. The Model "99" Printing Calculator prints all entries and answers for a "running reference." It instantly proves first-run accuracy, eliminating the need for the operator to check entries with a second run. Fully automatic multiplication, division, addition, subtraction, sub-totals, credit balance, and combinations of these are featured. Exclusive "control key" distinguishes between a cipher and a space; and moves entries to any position on the paper tape without printing superfluous zeroes. Decimal places can be predetermined, decimal points printed. Memory key for re-entering constants is also featured, as well as an automatic switch for accumulative multiplication. Because the "99" doubles as an adding machine, it will handle all general business figurework—billing, pricing, cost accounting, inventory control, payroll, distribution, statistics, etc. Model "98" applies the same printing principle as the "99" to eliminate the need for second confirmation runs, and multiplication by a single operating lever.

Above shows new fully automatic Facit calculator, Model Cal-13

Comptograph, Model 220 SW, by Comptometer, is pictured above

Price range for calculating machines is from $525 to $782.

Silver Bells, Ltd., P. O. Box 982, Carmel, Calif. Firm has offered the Regina and Thales lines of manual full-keyboard adding machines, used for regular computations and, for the Time-Exa model, for hours, minutes and seconds.

Smith-Corona Marchant Inc., 701 E. Washington St., Syracuse 1, N. Y. Firm has four models of the manual full-keyboard type, priced from $89.95 to $151.76.

Swift Business Machines Co., 51 Church St., Great Barrington, Mass. Firm offers a small manually-operated adding machine with 10-key keyboard.

Underwood Corp., 1 Park Ave., New York 16. Firm has manufactured 11 models of adding machines including the Add-Mate and Sundstrand. The Sundstrand electric 10-key printing calculator features flexible date keyboard, keyboard program control, automatic electric carriage return, interchangeable control plates and descriptive symbols.

Victor Adding Machine Co., 3900 N. Rockwell St., Chicago 18. Victor supplies a wide range of adding and calculating equipment. Machines of 10-key, printing manual full-keyboard, electric 10-key printing, and electric full-keyboard models are available in the Imperial and Champion lines. Price range is from $99 to $360. The Victor Automatic Printing Calculator and Mul-O-Matic Calculator are available in both Deluxe and Special varieties, including 4 models of the electric 10-key printing type. Price range is from $435 to $635. Automatic calculator models divide, multiply, add and subtract automatically through one control and a single 10-key keyboard. Other features of this machine include Automatic Constant Divisor and Automatic Constant Multiplication, which automatically reinstate and print the factor; the Total Transfer Button, which permits the automatic re-entering and printing of any total of product a second time for multiplication or division; the Instant Stop Button, and the Select-O-Matic lever, which permits totals or sub-totals automatically with a touch of the motor bar.

Victor has recently developed a model called the Victor serial entry Digit-Matic Calculator which has numerical keys, addition and subtraction keys, and functional keys, all solenoid energized. The Digit-Matic Calculator is also obtainable with solenoid operated numerical and addition and subtraction keys, but with manually operated keys. Associated office and factory equipment such as electric typewriters, punched card equipment, calculators, weighing scales or data tape readers can program and key the calculator.

This automatic calculation by means of a solenoid actuated operation is now being made available to all industries by Victor .

Bookkeeping and Accounting Machines

R. C. Allen Business Machines, Inc., 768 Front Ave., N. W., Grand Rapids 4, Mich. The R. C. Allen line has included 2 bookkeeping machines designed particularly for payroll and accounts receivable. Price range is from $655 to $615.

Burroughs Corp., 6071 Second Ave., Detroit 32. The Burroughs line has included 6 Class 9 electrically operated desk model bookkeeping machines; one Class 10 electrically operated desk model bookkeeping machine; 5 Director "600" electrically-operated accounting machines; 36 electrically-operated Sensimatic accounting machines; 14 electrically-operated Typing Sensimatic accounting machines; 2 Ser-

ies M electrically-operated computing billing machines; 7 Series M computing, billing, and posting machines; and 14 Series M electrically-operated bookkeeping machines with multiplying mechanism. The machines vary widely in functions and features.

The Denominator Co., Inc., 261 Broadway, New York 7. Firm has manufactured a line of group counting and tabulating machines, designed to permit sorting and counting of various types of items. These machines consist of a series of individual counting units, all of which register the number of times they are touched. While the majority of the equipment tabulates in increments of one, special multiple-input units are available for applications in which entries are frequently made in large numbers. Uses of these manual tabulators include payroll denomination, order, analysis, consolidation of buying orders, etc. Denominator also has a new model called "Multiple-Tally," which is an all-metal, compact new tabulating machine.

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. Firm offers new Computyper Model CTS, which is an automatic billing machine. It can be operated by punched paper tape, tabulating cards, or both, and, while producing a document at a speed of 100 words per minute, can produce as a by-product, punched tape. Machine's common language allows it to "talk" to many other office machines such as Friden Flexowriters and card punches and computers made by various firms. By-product tapes from the Computypers can be transmitted over telegraph or telephone facilities. Machine incorporates such features as an additional accumulator for more registers; greatly increased production speed through automatic selective elimination of tabulating stops; automatic starting and stopping of input reading to permit variable entries; and telephone switchboard convenience in changing applications through an 826-hole program panel, or "patch board."

International Payroll Machine Co., Box 293, Oxford, Pa. Firm has offered electric payroll denominating equipment with inputs through a keyboard, especially designed for listing, totaling, and denominating cash payrolls.

Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J. Firm has "President" and "200" series line of bookkeeping and accounting machines used for accounting functions such as accounts payable or receivable, payroll, stock record, budget control, installment loans, small loans, production control, general ledger, etc. Prices start at $750. The Monroe 8-Register Bookkeeping Machine, which was designed for bank or commercial work, has two mechanical registers and 8 electro-mechanical registers. It is ideal for banking because of a feature called "printed activity count," which permits quick and easy analysis of daily bank activity.

The National Cash Register Co., Main & K Sts., Dayton 9, Ohio. Company has manufactured a large number of bookkeeping machines designed for many accounting operations. Some of the equipment can be linked to punches to record data simultaneously with regular work and in such machine-sensible form as punched cards and punched paper tape for later integrated data processing. The line also includes Post-Tronic bank bookkeeping equipment which reads and enters coded data in the form of magnetic spots on business forms. The equipment can be controlled by this information.

New Friden adding machine, Model ACY-10, has several new features

Olivetti Corp. of America, 375 Park Ave., New York. Firm has two accounting machines: The Audit 202, priced at $1150; and the Audit 302, priced at $2580.

Remington Rand, Div. of Sperry Rand Corp., 315 Fourth Ave., New York 10. Typical applications of the Remington Rand accounting-bookkeeping machine equipment involve accounts receivable and payable, budget, payroll, stock records, etc. Each of the machines may be programmed for a number of other operations, and programs can be interchanged readily.

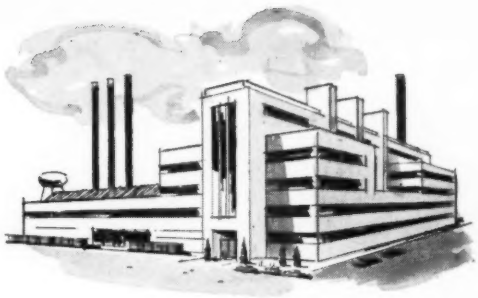
Royal McBee Corp., Data Processing Division, Port Chester, N. Y. Company has Keysort Tabulating Punch which simultaneously code-punches quantities in body of Keysort cards, accumulates in machine, and prints detail tape. Later, when Keysort cards are sorted to classifications, machine will sense punching, and automatically add, non-add, or subtract as internally punched cards can be produced during any operation. Two quantities or amounts may be punched simultaneously. Summary punching of either quantities or both, is possible. Data is entered by simple 10-key adding machine keyboard. Tape totaling capacity is 11 digits. Also, General Records Poster, which is a general purpose accounting board for the simultaneous posting of related records. Its most popular applications are: Accounts payable; accounts receivable; payroll; inventory; and general ledger.

Underwood Corp., 1 Park Ave., New York 16. Firm's line of bookkeeping-accounting equipment has included 3 models of the Sundstrand "Post-Master" for accounts receivable and payable, payroll, stock records, general accounting, and similar purposes.

Universal Business Machines, Inc., P. O. Box 5183, Columbia, S. C. Universal offers the Keytronic line of electro-mechanical sorting machines, in 5 models priced from $4000 to $8500. These machines are used primarily for high-speed sorting of accounting records and other materials. Machines with numeric and alpha-numeric keyboards likewise have been offered.

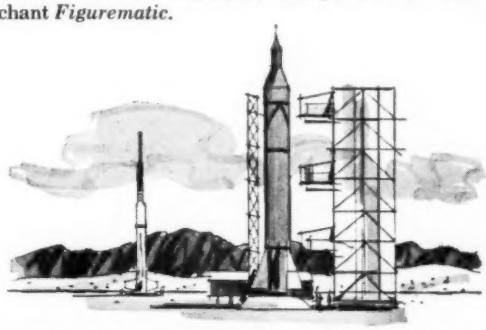
Victor Adding Machine Co., 3900 N. Rockwell St., Chicago 18. Victor has produced posting and statement machines, the Victor-McCaskey Charge Control Systems, the Victor-McCaskey and Victor Digit-Matic Cash Register Systems, and the Victor Punched Tape Analysis System. All are available in at least 2 models, with the exception of the Punched Tape Analysis System, which is available in one basic model. Uses for this equipment vary and include the posting and preparation of statements, etc., control of charge and credit records, control of retail cash and charge transactions, recording and calculating of data, and central analysis of sales, figures, etc., recorded at outlying stations.

IN RETAILING, all kinds of progressive establishments are whisking through on-store inventories with the Marchant *Rapid Multiplier.*



IN MANUFACTURING, the costing, billing, payroll and other departments are boosting figurework production with the Marchant *Figurematic.*

IN THE WORLD OF FINANCE, the Marchant *Figuremaster* by the tens of thousands is processing urgently needed calculations swiftly and accurately.



IN SCIENCE AND ENGINEERING, the Marchant *Deci • Magic* is enabling key personnel to concentrate less on figuring and more on creative productivity.

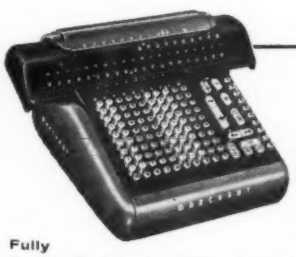
Gain the advantages of a Marchant calculator specially programmed for your kind of figurework

Wherever figurework is performed, a specially programmed Marchant calculator does the job best . . . delivering faster figurework, saving time and money.

Drawing on a half-century of experience in serving calculator users in all fields, Marchant has developed calculators and methods for the most efficient performance of virtually every type of figurework. There is a Marchant calculator programmed for the job, whether in a small business office or in a giant organization where highly specialized calculations are performed.

To see in action the Marchant *programmed* for *your* figurework, ask the nearby Marchant office for a demonstration on your own daily figuring. Or send the coupon for advance information on the extensive Marchant line of specially programmed calculators.

Modern Management Counts on Marchant



Fully Automatic Marchant Figuremaster

MARCHANT CALCULATORS

Division of SMITH-CORONA MARCHANT INC.

OAKLAND 8, CALIFORNIA

MARCHANT CALCULATORS • OAKLAND 8, CALIFORNIA

Please furnish information on Marchant calculators and how a Marchant specially programmed for us can give us faster, more accurate figurework.

E-8

NAME_____

PLEASE ATTACH COUPON TO YOUR BUSINESS LETTERHEAD

Tools of the Office

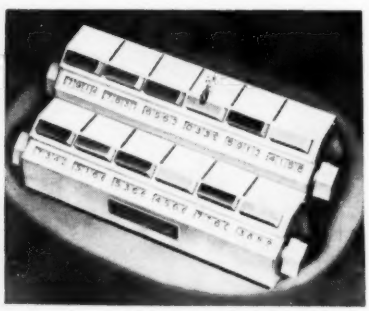
"One-Writing" and Other Bookkeeping and Accounting Systems

American Voss Corp., 78050 James Couzens Highway, Detroit 35. Firm has offered the "13" Typewriter-Syster-riter one-writing system which is designed to provide a complete bookkeeping job.

Bates Accounting Devices, 33 West 42nd St., New York 36. Firm has Audi-trol Bookkeeping System which is a one-writing system of the loose leaf, binder type. Price range is from $75 to $300.

The Blackbourn Systems, Inc., 230 S. Cedar Lake Rd., Minneapolis 5. Firm offers tailor-made bookkeeping systems for small businesses with a price range of from $.60 to $10.50. Firm also has appointment books, social security and payroll records, personal and home expense records, and tax records.

Burroughs Corp., Todd Co. Div., 1150 University Ave., Rochester 7, New York. Burroughs has offered a large variety of bookkeeping and accounting systems including the following: "Write-It-Once" Accounting Systems, (pegboard type), available in 85 models, used for accounts receivable and payable, payroll installment loan accounting, cash receipting systems and check writing plans. The "Multipharious Binder" is a loose-leaf binder type, used for purposes similar to those listed above. The "Unispred Summary Board," which is available in 4 models,is used for sales analysis work, inventory, labor cost, and purchase analyses. A new product is the "Burroughs Disbursement Controller," which is a new three-way check-protecting machine that literally tattoos checks with an indelible dye. The new protection process employs a "one-time" dye-impregnated ribbon in combination with a platen covered with thousands of "tattoo" needles to protect checks permanently. New machine is a nine-bank checkwriter with dating unit and metered signing unit and lock. Machine sells for $220. Another of the firm's new developments is the "Center-Write" payroll system. It is a one-writing method of payroll accounting, using a strip of carbon running lengthwise and through the center of the back of the check and stub. With the check and stub properly positioned on the accounting form, whether on board or in machine, accounting data are automatically recorded on the form as the check and stub data are made out. Price range is from $80 up.



Denominator has new manual tabulator called Multiple-Tally

Business Systems Corp., 436 Pearl St., New York 38. Firm has offered two systems: Accu-Rite and Paycomptroller. Accu-Rite is a book-enclosed device; Paycomptroller is of the pegboard type.

Cel-U-Dex Corp., Box 1125, Newburgh, New Windsor, N. Y. Firm has offered a variety of post binders for use in bookkeeping work.

Comptometer Corp., 1735 N. Paulina St., Chicago 22. Firm has Comptometer "Pegboard" system which is used in conjunction with Comptometer calculators for all general accounting distributions and analyses, as a means of securing accurate figures in "one-writing." Price range is from $45 to $95.

The Institute of Business Research, Div. of Keller-Crescent Co., 28 S. E. Riverside Dr., Evansville 8, Ind. The Institute has offered a ledger-checks system of one-writing variety, consisting of a loose-leaf journal with correlated checkbook and ledger.

Le Febure Corp., Cedar Rapids, Iowa. Firm's Short Cut Bookkeeping Systems have consisted of a coordinated set of business forms and equipment for housing them and providing work facilities. Le Febure has also offered systems for clerical and accounting work. Firm also has new system called "Write-A-Mation," which automatically accomplishes complete payroll posting with one writing. It is priced at $90.

David Lyons Co., 2100 Greenleaf St., Evanston, Ill. Lyons has offered the Lyons-Visual Balanced Inventory System, a system of coordinated charts, forms, and cards for inventory control.

Olivetti's Audit 302 has two registers and a typewriter keyboard

Master-Craft Corp., Div. of Shaw-Walker Co., 831-903 Cobb Ave., Kalamazoo, Mich. Master-Craft has offered a line of one-writing systems of the pegboard and loose-leaf variety.

The McBee Co., Div. of Royal McBee Corp., Smith St., Athens, Ohio. This company has manufactured the McBee General Records Poster, a one-writing system of the pegboard type, and a line of Keysort marginally-punched cards for sorting and tabulating operations. Other equipment has included key-punching units, such as the Keysort Data Punch and Keysort Tabulating Punch.

McMillan Book Co., 701 E. Genesee St., Syracuse, N. Y. Firm has manufactured an extensive line of forms, binders, and other items designed for accounting and bookkeeping functions.

Monroe Calculating Machine Co., 555 Mitchell St., Orange, N. J. Monroe has large selection of tables available with machines for customer usage.

The National Blank Book Co., P. O. Box 791, Holyoke, Mass. Firm's line of bookkeeping-accounting systems has included the Multiple Posting Outfit designed for payrolls and accounts receivable.

Norfield Methods & Procedures, Inc., 933 S. Clinton Ave., Oak Park, Ill. Firm has produced Norfield's Copy-Writer, a pegboard type one-writing system used in various accounting procedures.

Payroll Tax Service, Inc., 44 W. 29th St., New York 1. Firm has offered the Payrollmaster, a pegboard-type one-writing system designed for use in payroll, and accounts receivable and payable.

The Reynolds & Reynolds Co., 800 Germantown Ave., Dayton 7, Ohio. Company has made a series of pegboard-type one-writing systems for payroll work.

Royal McBee Corp., Data Processing Division, Port Chester, N. Y. Firm

offers the General Records Poster, a "one-writing" system of the pegboard type used for general accounting. Price range is from $62.50 to $85.

S-K Forms Co., 1907 Chestnut St., Philadelphia 3, Pa. Firm offers the S-K 301 one-writing, loose-leaf system in 4 models for payroll purposes. Price range is from $37.50 up.

Safeguard Corp., Lansdale, Pa. The Safeguard Systems are of the pegboard variety and designed for accounts receivable and payable, and payroll (check or cash disbursement).

The Shaw-Walker Co., Muskegon, Mich. Firm has offered Kopi-Spot Payroll Plan of the board-type one-writing variety, designed for simultaneous preparation of related payroll records. The Simplified Payroll System consists of a board designed to hold payroll accounting forms in alignment, one above the other, so that preparation of the top form causes necessary entries to be copied on the forms beneath.

The C. E. Sheppard Co., 44-01 21st St., Long Island City 1, N. Y. Firm has offered the Multi-Rite one-writing pegboard system which is available in 24 basic models and designed for use in payroll, accounts receivable, and payable operations, as well as in time payments, hospital charge control, doctors' collections, insurance agency operations, and other special applications. Centerline writing "Sâtellite" System pegboard may be used with various Multi-Rite accounts receivable and payable systems without adjustment; the Multi-Rite Mercury Pegboard for accounts receivable may also be used to prepare payrolls. Prices vary according to system and size of installation.

Speedograph, Inc., 5440 S. Ashland Ave., Chicago 9. Speedograph has offered a one-writing system of the pegboard variety for use in payroll and accounts receivable and payable applications.

The Todd Co., Inc., Div. of Burroughs Corp. SEE Burroughs Corp., Todd Co. Div.

Olivetti's Summa 15 features direct subtraction and credit balance

Visirecord, Inc., Copiague, L. I., N. Y. Firm has made the Triposter, a one-writing system in which accounting forms are placed on a writing surface which forms the top of a flat, box-like device. The equipment has been available for such operations as installment, accounts receivable, small loans, layaway, window posting, etc.

Wilson Jones Co., 209 S. Jefferson St., Chicago 6. Company has offered a special "Short Cut" credit sales system for recording charge and time payment sales for small business.

Charts, Tables, Scales and Miscellaneous Devices

Ayres Corp., Box 1081, Wilmington, Calif. Firm has produced the Calculator-D, which is a payroll tax computer for computing taxes. It consists of a cylindrical device containing a rotating drum which carries a chart showing various deductions.

Bates Accounting Devices, 33 West 42nd St., New York 36. Firm has new Taxmeter, which is designed to accommodate long charts with Federal and State taxes shown together. One twist of the knob indicates all taxes deductible for any given wage. Firm also has Calcucharts, used for payroll computation.

Cel-U-Dex Corp., Box 1127, Newburgh, New Windsor, N. Y. Firm supplies a series of transparent indexing devices, systems, and equipment.

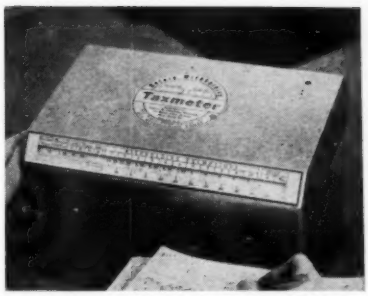
Consolidated Business Systems, Inc., Jersey Ave., New Brunswick, N. J. Consolidated has manufactured "Dedifixt" business forms for diversified accounting methods and procedures.

Delbridge Calculating Systems, Inc., 2510 Sutton Ave., St. Louis 17. Firm has "Universal" payroll charts; also, payroll chart binders.

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. Firm offers a series of charts to assist in bookkeeping and accounting work. Tables cover a great variety of subject matter.

Max Isaacs, 1019 McDonald Ave., Brooklyn 30, N. Y. This company has produced the "Payroll Pal," a device which shows withholding tax and other payroll deductions on a single line.

Melcar Office & Business Equipment, 480 Canal St., New York 13. Firm has made Morton charts in three models which are designed to calculate payroll deductions.



Pictured above is Taxmeter by Bates which shows all taxes for any wage

Payroll Tax Service, Inc., 44 W. 29th St., New York 1. Gem charts show weekly tax deductions on Social Security, Federal withholding, New York disability, and New Jersey unemployment.

W. H. Pusch, 427 W. Lynwood, San Antonio, Texas. Firm offers the "78er" plastic slide rule used for figuring problems such as installment loans and other installment accounts. It is priced at $4.50.

S-K Forms Co., 1907 Chestnut St., Philadelphia 3. Firm has S-K line of books of combination tax tables for use in payroll computations. Prices are $2.50 and $3.50.

Silver Bells, Ltd., P. O. Box 982, Carmel, Calif. Firm has offered line of aluminum disk-type scale calculating devices for commercial and technical calculations.

Specialty Papers Co., 2028 Farrington St., Dallas. Specialty has offered a disk-type scale for computing elapsed time for payroll calculations.

As mentioned previously, the above listings are incomplete, as it would be literally impossible to cover *all* of the details in so extensive a field. And aside from mere details, the categories of adding, calculating, bookkeeping, and accounting machines also include a great many actual devices which, unfortunately, could not be mentioned simply because of a lack of space. Therefore, since the equipment discussed in this section is so extremely various and inclusive, such omissions were unavoidable.

Next month's "Tools of the Office" series will feature dictating, transcribing and inter-communication equipment.

DELAY IS CANCER'S FRIEND

Cancer needs time to develop The more time you give it, the less curable it becomes. Of the 255,000 Americans struck down by cancer last year, 75,000 died *needlessly*—enough to populate an entire city the size of Racine, Wisconsin or Santa Monica, California. These patients could have been saved if they had sought diagnosis and treatment in time.

Cancer research can be delayed too . . . by insufficient funds. The sooner you give . . . the more generously you give . . . the greater will be the attack against the nation's number two killer among diseases.

Be cancer's enemy . . . act *now.*

GUARD YOUR FAMILY—
FIGHT CANCER WITH A
CHECKUP AND A CHECK

Send your check to "Cancer," c/o your local postoffice.

AMERICAN CANCER SOCIETY

(*From page* 28)

this man is up for a performance review, his supervisor would use Form B as the measuring tool; with the result that the employee would gain 29 points or a $29 per month raise.

Another example one could consider involves a 48 year old married man and father of five children. He is not a college man, but did finish high school and a two-year correspondence course. In addition he is an inventor and writer, and also a toolmaker by trade. He spent two years in the Air Force as a pilot, ten years as a salesman, and fourteen years as a building contractor. During his spare time, he devoted himself to inventing and writing, and managed to patent three of his inventions as well as sell two fiction stories and one TV play. His business went into a slump, so he was obliged to apply for a job in industry. Because of his varied background, but lack of college or industry training, the personnel interviewer placed him in a mediocre position in the purchasing department. Being in his late years, the applicant was finding it difficult to locate a position, and though he wasn't fond of the offer, he accepted it and was soon firmly settled in his niche. Shortly afterward he began to discover that he was considerably underpaid compared to those around him, but when he attempted to move ahead he came up against all sorts of obstacles, and became frustrated and irritable. When he was passed by on his first wage review, he quit.

Had this man been hired through the use of BSEP, his score would have revealed a highly capable and experienced individual and one who would have been extremely valuable to the company in either research or executive capacity. However, the interviewer had given much weight to the lack of education and industrial experience, and had hired the man for less than a younger and less experienced college graduate.

It should be realized of course that there are many other typical cases where BSEP would prove of great benefit, not only to individuals but management as well. However, it is not the author's intention to dwell on all aspects of the plan at this time. Nevertheless, there are a few additional items that should be mentioned at this time concerning some of the advantages of this system.

It should be obvious of course, that any plan that is even somewhat systematic in nature is better than guess work. One of the great advantages of BSEP is that of recognizing the accomplishments of individuals, not only during the hiring stage but throughout the entire employment of the individual. This in turn works two ways . . . when the individual realizes that management is aware of this and that his performance reviews are affected by his attempts to better himself, he will consequently have higher morale and a desire to work more efficiently for the company. Naturally, the higher the morale of the employees, the fewer union problems occur; and the more efficient the employees become, the greater are the profits to the company.

Another item not often considered by management as a point to be concerned with during a performance review is that of item VI of Form B. Nevertheless, if an employee is forced to work under adverse conditions, he is entitled to a little higher compensation than one who works in an ultra-modern environment. Under such a plan, a company would be forced to maintain better working conditions, or face the prospect of paying higher wages than the newer, or, at least, better maintained industry next door.

Automation—

(*From page* 34)

One of Wall Street's largest brokerage houses has announced plans to turn to an electronic data-processing system to handle the tremendous volume of paperwork which has resulted from increased stock market activity.

Goodbody and Co. has arranged for the installation of an all-transistor RCA 501 system in the new headquarters the company will occupy in September. The system will process data on customer accounts originating there and in the firm's 41 sales offices, all linked by teletype.

The signing of a lease agreement for the 501 system was announced jointly by Harold Goodbody, managing partner of the brokerage firm and John L. Burns, RCA president.

(*To page* 76)

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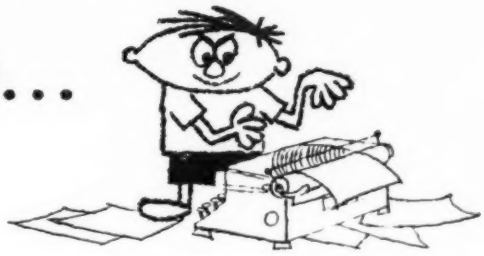

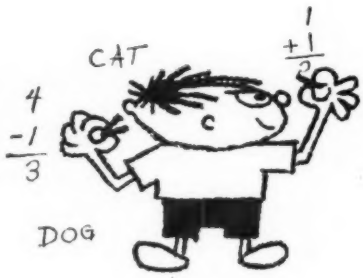

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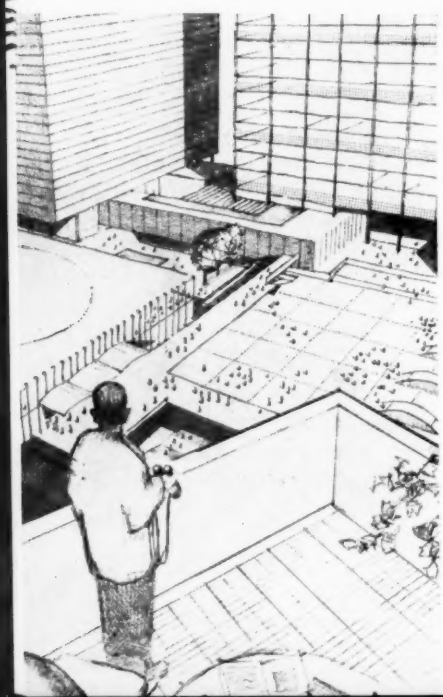
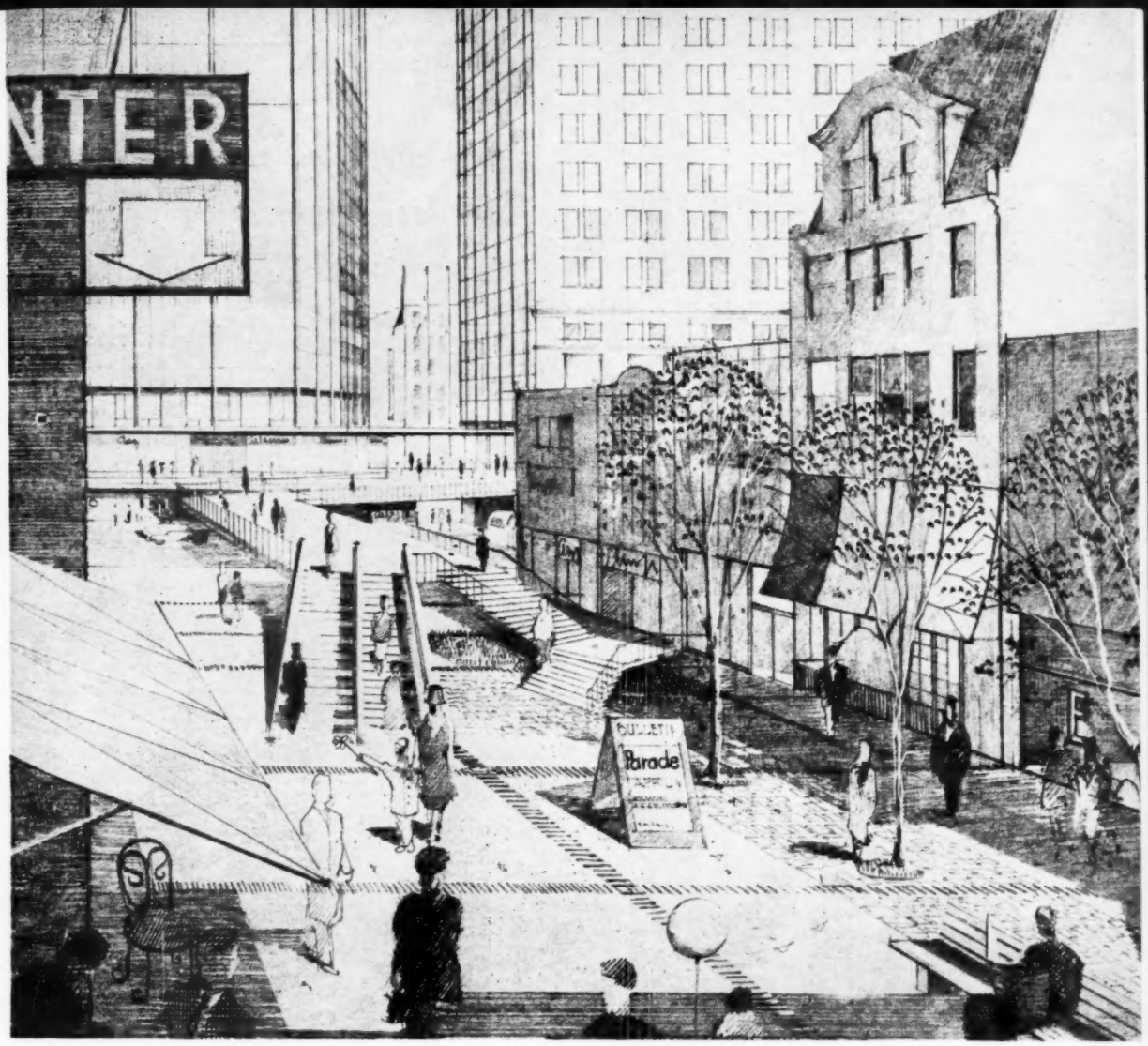
A plan of Charles Center superimposed on the photograph above shows downtown Baltimore as it will look when the project has been completed

Depicted in the sketch below is the mall, heart of the 22-acre urban project



Baltimore develops pattern for "downtown" rehabilitation

PERHAPS the most ambitious of the urban redevelopment plans that are attracting so much attention from city authorities across the country is the Charles Center project in downtown Baltimore. Technically known as the Urban Renewal plan, it is literally that: a program for restoring a 22-acre central city area as an integrated community, complete with office, commercial, hotel, and shopping facilities. At the moment the plans are complete: initiation of the project depends on the readiness of private interests to invest in the area. Although development of the various facilities planned for Charles Center will be left to business and commercial concerns, all construction will have to conform to the general rules and conditions established by the Baltimore Planning Council, and the overall plan under which the area is to be developed as a complete downtown center, with all facilities in planned proportion to each other.



The traffic-free shopping street (above) and the maximum of sunlight and space gained by building angles (below) show how the Center will solve some of the major current problems of a downtown area

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Use Readers' Inquiry Coupon on Page 82

How to create a "do-it-yourself" systems and procedures program

by P. K. Eschbach
Office manager, Nevada Plants, Blue Diamond Corporation, Blue Diamond, Nev.

ARTICLES on the subject of systems and procedures usually presuppose some prior knowledge on the part of the reader. They run the risk, therefore, of being more or less unintelligible to one who is not familiar with systems and procedures. This article is intended to begin at the beginning and to offer some practical suggestions which will enable the novice actually to get started on a systems and procedures program.

Time checks, charting, motion studies, procedures and other devices included under the above heading have been used for many years in the factory. In the office, such methods are comparatively new but they are equally applicable. In fact, the cost of clerical work has increased to such an alarming extent in recent years that it is essential to simplify it. This is due to the greater complexity of modern business and to the demands for additional paper work imposed upon business by government.

Need for revising systems

Much is now heard about data processing and electronic computers which turn out all sorts of data with incredible speed, so that management is becoming increasingly conscious of the problem of paper work. In this connection, as pointed out by H. John Ross in his book, "Integrated Data Processing for Every Office," one should not become hypnotized by the intriguing names and marvelous performances of mechanical and electronic machines to the extent of investing a large sum of money in them prematurely. This is not to question the amazing work turned out by such devices — that is indisputable. The point is, that it is absolutely necessary to revise existing systems *before* effective use can be made of integrated data processing machines. In the course of such revision, much can be discovered which, in itself, will result in substantial savings and faster processing of paper work. Such streamlining may, in fact, be sufficient without a large investment in equipment.

To return to the modus operandi of beginning a well-organized systems and procedures program, we should first define the terms. "Systems" refers to a definite overall program which includes all phases of paperwork—Job Descriptions, Procedures, Forms, Controls, Reports, Inventory Records, etc. It is a

(*To page 62*)

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Use Readers' Inquiry Coupon on Page 82

Work measurement as important to office as to factory, NOMA speaker declares

Problems of applying production standards to the office, population growth, family budgeting, work incentives discussed at organization's convention at New Orleans.

ENGINEERING in the office must keep pace with engineering in the factory, Paul Holly, Management Systems, Inc. Chicago, told the 40th International Conference of the National Association of Office Management Association held in New Orleans, May 24-27.

In a strong plea for the application of work measurement plans to the office, Mr. Holly noted that in the last fifty years the ratio of factory workers to office workers had dropped from 30-1 to a present figure of "one worker in the plant to one worker in the office."

Speaking at the May 26th morning session, he said:

"Engineering in factories is recognized as the efficient management tool. As a result, this engineering may be used to control costs. Factory engineering is concerned with tools and equipment, work places and departmental layout, material handling, job methods, systems and procedures, and work measurements.

"Can anybody tell me that those elements do not appear in the office?"

Other speakers at the May 25-26 sessions were M. J. Flynn, General Electric Co., Atlanta; Dr. Alfred J. Cardall, Cardall Associates, Philadelphia and Edward Boettner, Jr., State Supervisor, U. S. Department of Labor, New Orleans.

Mr. Flynn, discussing ways of making "the most of your paycheck," stressed the need for involving the entire family in striving for financial stability.

The family budget, he told NOMA delegates, is the magic formula for attaining financial stability.

"The secret of family budgeting," he declared, "is not the nickel and dime economies which result from cutting out a newspaper here and a shoe shine there. The secret is in the discipline of controlling the large allocations of your pay check for exactly those things for which they are intended. You and your family constitute an economic enterprise. You might as well run it profitably."

Mr. Flynn stated that the breadwinner "must sit down with the family and explain in detail exactly what he is trying to do for them."

"With their cooperation, you can create a reasonable plan to achieve realistic goals."

Few offices measure work accurately

In his talk on "Work Measurement," Mr. Holly declared that few offices have an accurate form of measuring work done.

"We hear," he said, "that work in the office is different and it cannot be measured; that the cost of maintaining records under work measurement plans is too expensive; that the savings involved are not worthwhile."

None of this is so, he stated.

"Service industries, such as banks, mail order business and publications," he pointed out, "have recognized that paper work is their manufacturing process. Consequently, by giving it an equal amount of analytical management attention, they have streamlined, mechanized and developed a system that rivals the efficiency of manufacturing."

Experience proves, he asserted, that production standards can be extended to the office; that savings approximate 30 per cent; that the cost of record-keeping is insignificant, when compared to the total savings; that quality improves; and that the standards may be used for costs control.

The installation of a work measurement program, Mr. Holly said, rewards the office manager with more practical and accurate planning, more intelligent and economical organization, and with more control of operations and personnel.

Speaking at the May 26th afternoon session, Mr. Boettner discussed the vast increase in the nation's population seen for the near future. In the early 1960's, he said, the labor force will experience the impact of the coming of age of the wartime babies. This, he declared, will represent a rise of about 600,000 workers a year under the age of 25.

"At the present rate," he said, "we are adding to our country a city the size of Miami, Fla., every month."

The continued increase in the birth rate as well as the rise in life expectancy, Mr. Boettner declared, poses serious problems for the country's educational system, industrial training programs and manpower utilization.

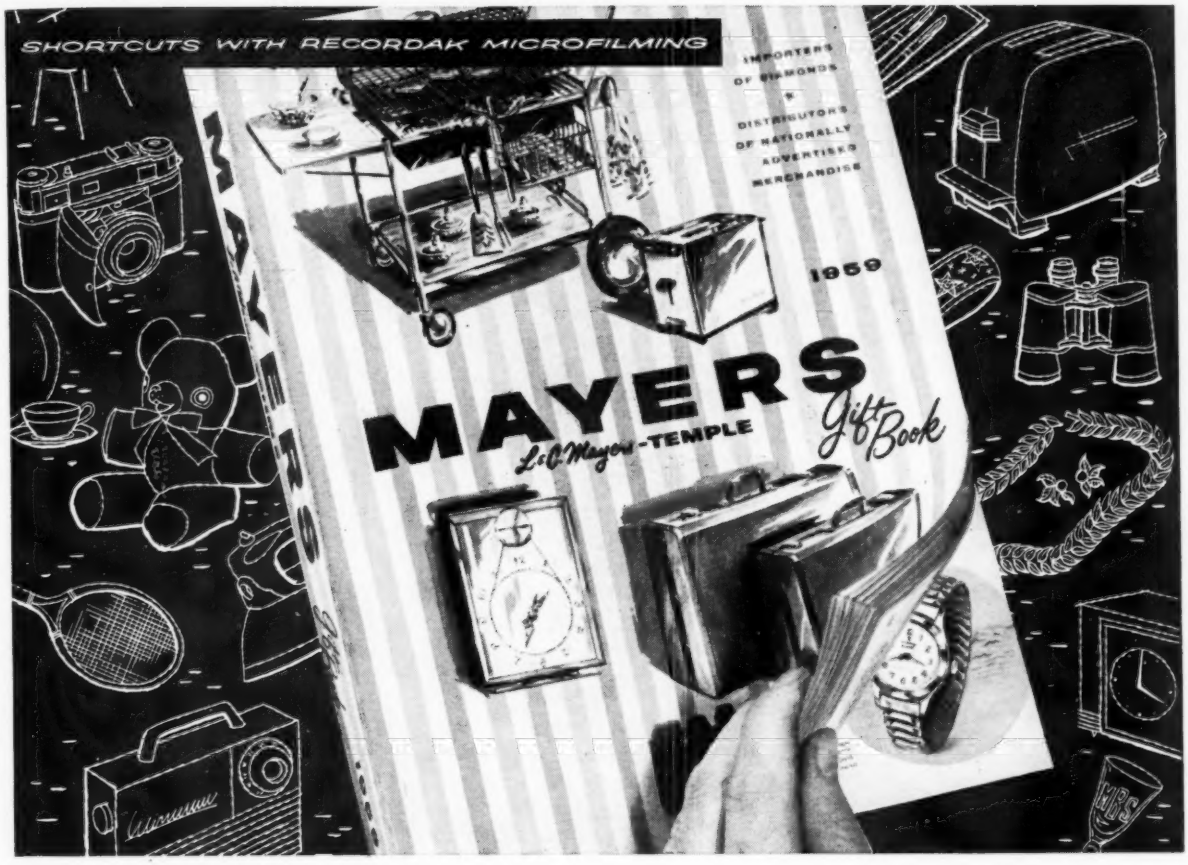
Referring to the babies of the 40's who are now approaching maturity, he said:

"They have been a problem to our educational system during the 1950's. They will continue to be a problem for higher education in the 1960's. They will certainly create problems of training, of occupational choice, and of national manpower policies. They offer a resource which can be useful in meeting the manpower needs of an expanding economy. But they also constitute a labor force which must be fitted as effectively as possible into our productive system."

Dr. Cardall's talk at the conference covered the techniques of building incentives among office employees. Basic incentives, he said, were a good job description, job design, job evaluation and recognition of performance.

"More and more dreaming time," he stated, "should be devoted to stretching people out and giving them more opportunity in the job. I make the strong plea that your dreaming time be in direct proportion to your problem areas. If it is people that concern you, then solving the human

(*To page 62*)



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(*From page* 60)

problem must concern you. Remember, leadership is merely the ability to acquire followers. An employee will look up to you if you will give him more of a sense of belongingness, a sense of participation, a sense of recognition. If you make it show up in the pay envelope, they will make it show up in the production counters."

Systems—

(*From page* 59)

method by which company policy is spelled out, transmitted and effectuated and also includes what has come to be named "Integrated Data Processing." "Procedures" are detailed step-by-step methods covering individual clerical operations involved in the overall systems plan.

To get an overall picture of your present system—which is the first essential of improving that system—the following steps are recommended.

1. Make an organization chart of the whole enterprise, or at least of one complete operating area of that enterprise in which systems improvement is to be undertaken.

2. Write job descriptions covering every position within the area where systems improvement is being planned. The actual duties of each and every employee (or group of employees, if more than one employee is doing identical work) should be set forth in sufficient detail to define unmistakably the area covered by the job in question. Certain other data may also be included in the job description advantageously, such as qualifications, supervisory data, etc. It is also well to refer to relevant procedures in the job description.

3. Prepare written procedures covering each and every operation involved in the various jobs. Thus, only one Procedure may be sufficient for a routine job while, for a more complex job, a dozen Procedures may be necessary. These should be clear and concise and should set forth exactly what steps are involved and how to perform them. If there is an overlapping between two or more Job Descriptions or Procedures, cross-reference them. Note that Procedures are not necessarily tied to Job Descriptions; in fact, it is customary to make a Procedures Manual quite apart from Job Descriptions. At the outset,

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however, it is a logical method for pulling together all of the operations involved and for specifying who does what.

4. Revise Forms. This is one of the most important means you have of reducing clerical work and speeding it up. In order to analyse forms effectively, make a chart showing where the form originates and where it goes, through whose hands it passes, what each person does with it and where it finally winds up. Ascertain how many copies are made and whether or not all are necessary and find out what other forms are filled in from information supplied on the original form, etc. Some forms will be found to have outlived their usefulness and so, can be abolished; others will be found to be more or less obsolete and yet others can be combined advantageously.

Having done the above, you will already have discovered possibilities of simplification and improvement. In writing procedures, copies of forms which are referred to should be attached to, or incorporated in the body of, the text description of the procedure. It is suggested that procedures be written first which cover the steps already in use; then they can be revised in the light of short cuts and improvements which will suggest themselves as you go along.

Develop standard format

Job descriptions, procedures, manuals, etc. should be included in one general category such as, for example, "Standard Practice Instructions," "Standard Operating Instructions," etc. A standard format should be adopted with a heading which includes the following:

1. Name of Manual (of which the Procedure, etc. is a part)
2. Procedure Number
3. Subject
4. Date (of issuance and also date effective, if different from date of issuance)
5. Approval
6. Page (Page 1 of 3, etc.)

Various other designations may be used in the heading but these are considered essential.

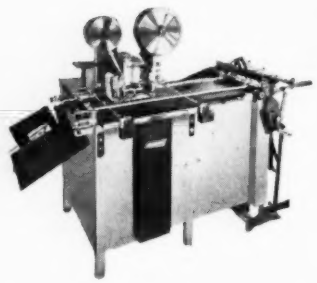
The above will give some idea of basic techniques. Of course, only a few of the main points can be dealt with in an article of this length but the material given is at least suggestive of what can be done to make a start.

The writer has found it desirable to encourage employees, who are capable of doing so, to write their own Procedures, first providing them with a suitable format. The Procedures so written are then edited by the supervisor. Employees are asked to submit suggestions for revision from time to time.

Any department head can follow through with Job Descriptions, for instance, in his own department. The same is true for written procedures. He may find, however, that some of these will overlap and involve the work of some other department. This is true of forms to an even greater extent. In other words, it is possible to go only so far with systems revision in any one department of a business. A further excursion into this field will inevitably

(*To page 66*)

ADDRESS DIRECTLY FROM PUNCHED CARDS!



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"READS" • SORTS
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While it PRINTS!

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Scriptomatic methods combine all the advantages of punched card automation and conventional addressing equipment. Scriptomatic offers a full range of machines and methods to tie in any punched card system you are using or plan to use. Today you can get all the advantages of a high speed, fully flexible addressing and data writing system . . . at a running cost differential as amazing as the cost comparison between a card and a metal plate. You enjoy not only low first cost but continuing savings in automatic file maintenance, filing space, and elimination of duplicate lists. Scriptomatic is the system geared to tomorrow . . . Imagine your punched card system flowing through a Scriptomatic machine for selective, flexible, high speed addressing.

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MODERN ADDRESSING-DATA WRITING MACHINES AND METHODS

PRINT FROM CARDS...DOUBLE THE FLEXIBILITY...HALF THE COST

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With modern Bruning copying machines, you can eliminate up to 80% of the receiving report writing you are now doing. You slash, clerical costs, speed purchasing-receiving operations!

With Copyflex, the purchase order is typed on a multiple-part form, and a translucent copy sent to Receiving. Receiving information is added directly to this copy — extra columns provide for multiple receipts. Each time receiving data is entered, any number of Copyflex receiving report copies (white or color coded) can be made.

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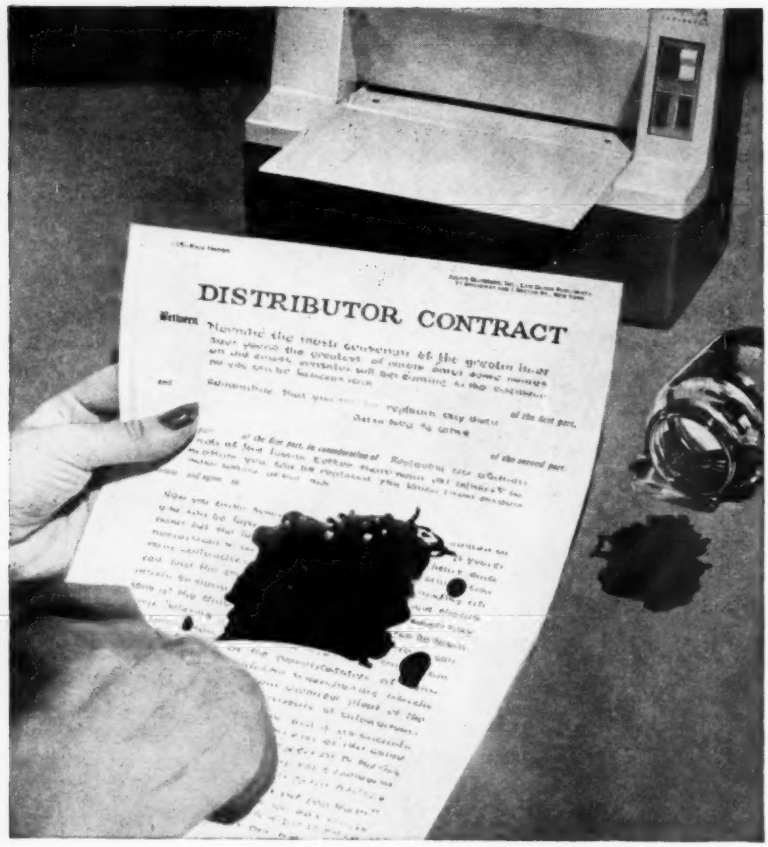
The Bruning Man *is your expert on paperwork. He's backed by a company with over 60 years' experience as researcher, manufacturer, and supplier. He's located in principal U.S. Cities.*



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You get maximum protection of important documents when they are laminated with sheets of Du Pont" Mylar"* polyester film. Your valuable papers, charts, I. D. cards or even photographs are protected against tampering or mutilation due to rough handling.

Sparkling-clear "Mylar" won't yellow, crack or become brittle with age . . . it provides lasting protection against dirt, moisture and smearing. "Mylar" can be laminated by a small, desk-size machine, or by hand, using pressure-sensitive sheets.

Ask your supplier today for Du Pont "Mylar" for protection of your important documents. For information on other stationery items made with "Mylar", write E. I. du Pont de Nemours & Co. (Inc.), Film Department, Room OM-8, Wilmington 98, Delaware.

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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

DU PONT MYLAR® POLYESTER FILM

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(*From page 64*)

lead to the crossing of departmental lines.

For this reason, it cannot be emphasized too strongly that the systems function should be given a separate and prominent place in the organization chart of any sizeable company, preferably directly under the president or executive vice-president, with full authority to cut across departmental lines. It should not be relegated to an unimportant post under the Accounting Department or any other department.

All of the paper work in any organization is interrelated; therefore, in order to achieve noteworthy results, it is necessary to deal with the problem, as a whole, and not merely piecemeal as is the case when each department head inaugurates his own "system."

Credit cards—

(*From page 23*)

Over this relatively short period of time the American Express, or Amex, has signed over 600,000 paid card holders, and 35,000 participating service establishments in the U. S. and foreign countries outside of the Iron Curtain.

This sudden rise to prominence is not surprising when one considers the many, and far-flung Amex offices already in existence, and the prestige it has obtained from serving travellers, home and abroad, through the years. It is seldom that a person travelling overseas will fail to drop in at an Amex office, even if it is only to pass a friendly "good morning" with one of the Amex people. It has acted as a "home away from home" to the thousands who find foreign travel and systems of exchange strange and unnerving. It is reassuring for the traveller to tell his family or friends to "write me care of American Express."

The Diners' Club and American Express offer similar charge services in hotels, motels, restaurants, automotive establishments, travel agencies, communications, car rentals and firms specializing in temporary office personnel. But each credit card lists services which it is proud to recommend as being unique with its organization. The card holder may charge tickets at home games of the Chicago White Sox or Washington Senators, sundries at any of the 20,000 Sun Rav

drug stores, tickets to the American Ballet Theater, and various other Diners' services both here and abroad. Charge for the Diners' Club card is $5.00, with an additional $2.50 for cards issued to the same account.

The American Express recently signed the New York Central railroad, the second largest passenger-carrying rail line in the U.S., as a participating service. The signing marks the first major transportation carrier to join a comprehensive credit card service.

Bus lines also covered

Under the new system, railroad tickets and sleeping accomodations may be charged with the Amex card at any N.Y. Central ticket agency, and on all other U.S. railroads for trips originating on Central lines. The credit card will not be honored for rail tickets costing less than $5.00, or for commutation tickets. The N.Y. Central's withdrawal from the Rail Travel Credit Agency of Chicago will become effective September 30, to allow those who have already planned a vacation via the railroad to complete their schedule uninterrupted.

Bus tickets in excess of $5.00 may also be charged for transportation on Greyhound and Continental Trailways services. The Greyhound Bus company is also a participating member of the Diners' Club credit card service.

Other establishments under the American Express plan include: the Kinney parking lots from Maine to Florida; airports around the country where aviation gas, parts, maintenance, plane charter, and other services may be charged; the Dictaphone Corporation which rents dictating equipment on a "charge it here, leave it there," basis. Cost to the American Express credit card holder is $6.00 per year, and $3.00 for each additional card billed to the same account.

American Express reported that over $35,000 in tickets for the recent World's Championship Heavyweight fight in New York were charged through its credit card service.

A person or company wishing to join one of the comprehensive card services must first undergo a thorough credit investigation. If he is considered a good credit risk, the yearly fee is paid and he receives a small booklet containing the names and addresses of participating organizations and the services they render. The card holder is billed monthly on cycle billing, and payment is due upon receipt. Thus, a

So Different, It's Patented*!

The instant the M-50, Columbia's patented polyester ribbon, goes into action, you'll see for yourself the unique combination of ALL these features:

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Available in either the Tri-Pak or dozen size reusable plastic container. Write for information about the special Tri-Pak trial offer. Columbia Ribbon & Carbon Mfg. Co., Inc., 958 Herb Hill Road, Glen Cove, N. Y.

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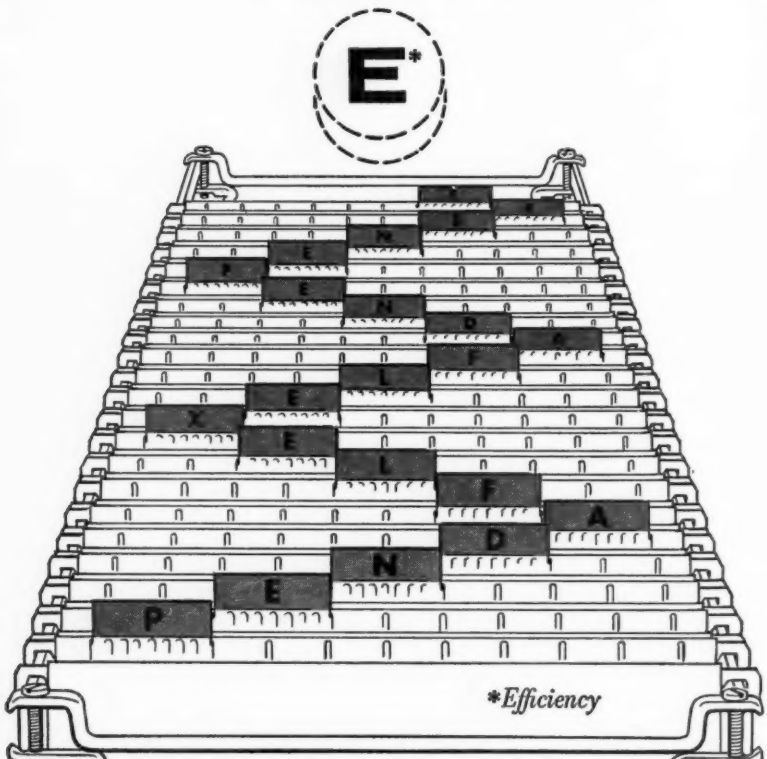

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person travelling a great distance, using his card in a variety of places, would only receive one bill at the end of each month.

Behind the scenes, the hotel or restaurant accepting the credit card is charged a commission by the issuing company. The commission covers the expense of handling the billing and assuming the credit risk. Commissions vary from a reported 7 per cent by Diners' Club on all restaurant billings, and a 10 per cent fee on other services. American Express commissions vary according to the type and volume of business, geographic location, and average size of bill.

Hotels, for instance, are charged a fee from 3 per cent to 5 per cent, with charges to restaurants ranging from 5 per cent to 7 per cent; travel agents incur a 2 per cent travel ticket fee. Commissions on other services may range as high as 10 per cent, according to American Express spokesmen. Both companies make their deductions from the check, exclusive of tips and taxes.

A travel agent normally receives a 10 per cent commission from the hotel for accommodations booked. If the Amex card is used, the agent is charged a flat 2 per cent fee by American Express. The hotel pays only the agent's fee, and Amex forgoes its usual commission from the hotel. Hotels under the Diners' Club plan (the Sheraton chain is a Diners' associate), may refuse to honor a card if the reservation has been made through a travel agent receiving a commission from the hotel. In doing so, the hotel avoids paying commissions to both the agent and Diners' Club.

Amex has given members of the American Hotel Association the choice of accepting the credit card as a symbol of good standing and billing directly, (thus evading Amex commissions) or accepting the usual commission charge for using the Amex central billing route. In such cases the card holder might receive bills from individual hotels instead of one monthly statement from American Express.

Restaurateurs have voiced dissatisfaction over commissions cutting too deeply into already scanty profits. In some large cities, associated restaurant owners have withdrawn from large credit card corporations to initiate their own plans. Others will honor the

national credit card when shown, but prefer to bill the customer directly. Either method, they say, reduces the cost of billing through a large credit organization. Other restaurants have withdrawn, only to rejoin after finding that a substantial amount of business depended upon the national credit card.

In a few cases, restaurants have added a surcharge of 5 per cent to 10 per cent to bills charged with a credit card in order to offset commissions. Others have merely raised prices at the expense of everyone, including those who ordinarily pay cash. Such practices have been limited to a few restaurants which represent a fraction of the establishments operating under credit card plans.

Carte Blanche, credit card of the Hilton Credit Corporation, has capitalized on the experiences of Amex and Diners' Club and lowered its commission rates to 4 per cent. As a result, Carte Blanche gained the unqualified endorsement of the National Restaurant Association. The 4 per cent commission, however, is attached to the total bill, while Amex and Diners' commissions apply only to the "net" bill.

Another reason for the popularity of Carte Blanche among restaurant owners is the swiftness of payment. Carte Blanche charge vouchers may be totaled (less commission), placed into a prepared envelope, and deposited at a bank as one might deposit a check. Thus, the associate receives immediate payment. American Express makes payments twice monthly, while Diners' reimburses member establishments on a monthly basis. The "immediate cash" method of payment, Carte Blanche says, will greatly reduce costly bookkeeping.

Although restaurants honoring credit cards may often have a legitimate beef over paying commissions, it has been proven that a card holder will often spend up to 25 per cent more per check, than he would when paying cash. A number of restaurateurs believe that the increase of traffic and the advertising received when the associate is listed in the directory, plus the larger amount of money spent by a card holder, more than justifies paying a commission.

Issued in April, Carte Blanche now claims 8,000 member establishments, exclusive of the 32,000 Mobile service stations over the country honoring the

Shaky scale wastes postage!

Twenty-five unneeded 4¢ stamps are a dollar wasted! On as few as 8 letters a day, an inaccurate mail scale that over*weighs can waste you as much as $100 a year. Just as bad, a scale that* under*weighs causes your mail to arrive "Postage Due"—at the expense and annoyance of the recipient, and the subsequent loss of good will. Every office needs an accurate, precision-built mailing scale these days —and Pitney-Bowes makes the best!*

Six Pitney-Bowes scale models for every requirement eliminate underpayment and overpayment of postage. For the small office, the Model 4900 is accurate, easy to use, and has a handy postage computer. Larger PB models, such as Model S-103 (illustrated), have an automatic pendulum mechanism that ensures accuracy, quick and exact register; with hairline indicator, large chart markings are easy to read, make mailing fast and easy. Ask the nearest PB office to give you a demonstration, or send coupon for free illustrated booklet.

FREE: *Handy desk or wall chart of Postal Rates, with parcel post map and zone finder.*

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Originator of the postage meter . . . offices in 121 cities in U. S. and Canada.

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2980 Walnut Street
Stamford, Conn.
Send free booklet ☐ *rate chart* ☐
*Name*_____
*Address*_____

Hilton card. Another 7,000 facilities are expected to display the Carte Blanche emblem by the end of the year.

Since Carte Blanche was distributed freely to holders of the Hilton Hotels credit card, it is hard to determine how many of the one million members it claims are actual paid card holders. The Carte Blanche costs nothing to the holder until it is used outside of Hilton Hotels. As soon as the card is used in one of the service establishments a $6.00 yearly fee is charged. Cards on the same account are issued at a cost of $3.00.

With Carte Blanche one may enjoy a wide variety of services similar to those available under American Express and Diners' Club; complete travel services offered through Carte Blanche are said to be in the planning stage, but have not yet been announced.

The latest development by Carte Blanche is the signing of Pacific Airlines and Western Airlines as member facilities. Pending approval by the CAB, it will be the first time an airline of any size has entered upon an agreement with a credit card corporation other than the tightly knit, Universal Air Travel Plan.

Pros and cons of cards

The comprehensive credit card has features which prove appealing to individual businessmen as well as companies wishing to extend the service to their traveling representatives. Most of the comprehensive credit cards offer the following advantages:

1. Eliminate carrying large amounts of cash.
2. Provide detailed records to support tax claims of deductible expenses.
3. Provide identification, establish credit reputation.
4. Speed service, expedite check cashing.
5. Expedite handling of expense accounts.

These are only a few of the advantages of the credit card. The obvious danger lies in the credit card falling into dishonest or ambitious hands. When a card is lost, the owner is responsible for charges made in his name until the issuing company is notified. A telegram provides a speedy means of notifying the company in written form.

The Rozee Bonus Club is the latest innovation of the credit card craze. Members of the Rozee club receive 10 per cent discount when they pay cash at authorized service establishments. It is not designed to accommodate the businessman or company, as much as the middle income vacationer, or the "man on the street." Each member pays a $5.00 yearly membership fee which is valid for wife, husband, and children up to 18 years of age.

Establishments listed in the Rozee directory with an asterisk beside their name will not give over-the-counter discounts. Reservations for these listings (most of which are hotels), must be made through the club itself. A $1.00 service fee is charged, plus the cost of telephone calls or wires used to place the reservation.

After paying the full amount of the bill, the cardholder sends the receipt to the Rozee Club which in turn refunds 10 per cent, minus service charges. The club claims a membership of over 200,000, with 3,000 participating hotels, restaurants, service stations, and other establishments around the country.

One of the most respected credit organizations is the Traveletter Corporation, Greenwich, Conn. Originated in 1894 by the late Edgar A. Walz, the Traveletter is a credential which allows executives or salesmen to cash drafts (Travelorders) on their company within designated limits, at any of the 5,000 hotels and motels listed in the Traveletter Guide. For companies who have salesmen in the field, the Traveletter offers distinct advantages. A recent study of the cost in-

I said "goodbye" to S.S. when I said "Hello" to

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The original grey eraser point —always best for erasing.

Typewriting mistakes happen to the best of Secretaries—but SLOPPY STRIKEOVERS are as out-of-date as ankle-length bathing suits. If you still use a bulky eraser, do yourself a favor by tossing it in the basket. Get an A.W. FABER slim, trim pencil-shaped ERASERSTIK that whisks away single letters of a word without marring the surrounding area. With ERASERSTIK you erase without a trace. Let ERASERSTIK make you a better Secretary. Get a few today.

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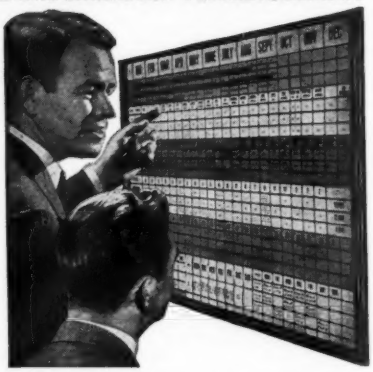

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volved in processing and mailing checks, revealed that a sum between $.50 and $1.25 was required to reimburse salesmen weekly, depending upon the amount of checks processed. Traveletter is designed to eliminate the weekly rush and expense of reimbursing salesmen.

Order reimburses traveler

A traveler is issued a document bearing, among other information, his name, the amount of credit he is extended per week, and the name of the company he represents. He is also given Travelorders which will eventually be redeemed for cash. Travelorders are obtainable in a variety of forms; the latest being a tabulating card or a draft envelope. If the traveler is using an envelope type draft he simply totals up his weekly receipts, places them in the envelope, and inscribes the exact amount on the face as he might a check. The Traveletter correspondent cashing the draft, checks the salesman's credential to make sure he has not exceeded the weekly limit, (the correspondent endorses the document after each transaction). He then checks a weekly circular to assure himself that this particular Traveletter has not been cancelled, and if everything is satisfactory, he pays the salesmen the amount inscribed on the Travelorder. After cashing the Travelorder the correspondent enters the amount, date, and place of transaction on the Traveletter credential.

The parent company must pay the amount of the draft if it is not in excess of the prescribed amount. If for some reason the company wishes to cancel a credential, it notifies Traveletter, which in turn prints a circular to that effect, and distributes it among the correspondents. A Travelorder in excess of the designated amount may be refused by the parent company, and turned over to Traveletter without liability.

Cost for one Traveletter is figured at 13% of the weekly limitation placed on the credential, per year. Thus, the cost of one letter with a $50.00 limitation would be $6.00. The amount of credit extended to the holder may be raised or lowered if the company so desires.

Airlines have long been associated with the Universal Air Travel Plan, which requires the cardholder to make an initial deposit of $425. No major airline has agreed to honor credit cards

"It just wasn't my day... (until I spotted the NU-KOTE!)"

"Then things just hummed along! I said goodbye to hard to read, messy carbon copies and hello to NU-KOTE, the original plastic-base carbon paper." Try NU-KOTE for money-saving, 3 to 1 durability over ordinary carbons. It's the one-weight, one-finish carbon for almost any copy job. Send for your free sample of NU-KOTE today. Clip the coupon below.

Buy where you see this sign

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NU-KOTE® *is a product of Burroughs Corporation, Mittag Division*

FREE SAMPLE! For a free sample of NU-KOTE just mail this coupon attached to your company letterhead.

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Firm_____
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In Canada write Acme Carbon & Ribbon Company, Limited, Toronto 13, Ontario

other than those covered under UATP.

Expected early this month is the International Credit Card, a development of the Seaboard Finance Co. The card is tailored for family use and provides revolving credit terms.

The sudden rise of credit cards in the public eye has evoked a varied amount of publicity and comment. Motivational researchers looking closely for a "raison d'etre" have called the credit card, "a symbol of inexhaustible potency." The credit manager of a fashionable hotel was quoted as saying, "In our restaurants, the thing to do these days is sign for it. Offering mere money is plebeian." Likewise, an executive of a large credit card corporation, has been quoted as saying: "Twenty years from now there will be only two classes of people: those with credit cards and those who can't get them."

If such a prophecy is ever fulfilled, the credit card will have become the most translucent symbol of dignity and prestige.

Aside from its social connotations, the credit card remains a legitimate business tool.

Cramer

CHAIRS have replaceable seat covers, too!

Nothing makes junior happier than a fresh set of seat covers. And nothing perks up your office so quickly, so inexpensively as a change of upholstery . . . or dry cleaning . . . for your Cramer chairs. Cramer seat and back covers come in *dozens* of colors and fabrics for *any* Cramer chair. Keeps them looking new for life! Remember, you're always "backed by the best" with Cramer.

Write for complete details

Cramer POSTURE CHAIR COMPANY, INC.

625 Adams • Dept. OM-8 • Kansas City 5, Kans.

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Programming—

(*From page* 21)

the computer. Under the Flow-Matic system, the entire pseudo-coded instrutions are instead processed through a "compiling" routine which creates a complete program in machine language on the data processor itself. The taped program produced is then fed into the processor with the data to be processed to update the particular records concerned or solve the stipulated problem.

Under the "Flow-Matic" system, the action words are thirty English verbs which can be used to describe almost any necessary action performed in business data processing. The nouns or descriptive words identifying the various types of data to be acted on are defined by the company in accord with its own usage and terminology.

Nouns include data descriptions

The nouns or definitive words must include descriptions of the data as

1. An existing file or set of reels of tapes
2. Items, records, or sets of words
3. "Fields" or sets of characters

Simple forms are provided to users of the Flow-Matic system to permit them to set up their own word definitions for the types of files and data they are using in a form that can be translated into machine language by the computer. These definitions are then put on tape ready for use in the compiling phase of automatic programming.

With a tape library of generator words (verbs) and company definitions (nouns) complete, an installation is prepared to process its work through automatic programming techniques, instead of writing out its data processing programs in machine language. Let's say a flow chart has been set up for a particular problem, with each step in the flow chart numbered. It now becomes a comparatively simple matter to program the computer in simple English sentences which represent the steps outlined in the flow chart.

A single direction representing a given step on the flow chart might then be written:

14. (Representing step in sequence of program) COMPARE (action word) INV-ON-HAND WITH INV-LIMIT (Company defined termin-

ology). IF GREATER GO TO OPERATION 19; IF LESS GO TO OPERATION 17 (Each operation number refers to steps indicated in the complete English pseudo-code text being fed into the compiler.)

As the complete program is entered into the computer it is translated by a tape carrying the glossary of the "nouns", the descriptive words of the pseudo-code, into the machine language. The Translation phase converts the pseudo-code input into what is called Operations File 1, which carries complete machine language definitions of the data to be processed, and the action words defining how they shall be processed.

Next step in the process is the Selection phase, in which the pseudo-code verbs call forth from the standard Flow-matic Library tape the stored sub-routines which each verb represents. These action sub-routines or "generators", matched against the data descriptions in machine language furnished by the translation phase, are stored in a "Generated Library", and also are used to furnish additional information to Operations File 1, which, in its elaborated form becomes Operations File 2.

Operations File 2 now goes through an Allocation phase in which data storage areas in the computer's "Memory" unit are assigned as required by the program, and in which every bit of coding is given a fixed Memory address. These addresses are incorporated into Operations File II, transforming it into Operations File III.

Operations File III and the Generated Library are now merged in the processer, which takes assigned memory locations from the Operations File, and the necessary pieces of coding from the Generated Library, matches correct addresses to each piece of coding, and assembles the entire coded routine in the right order. This produces an output tape which can now be used to program the computer for the particular application first outlined in the systems flow charts. It also produces an edited record of the entire compilation process carried through by the computer. This record may be studied by the programmer for any inconsistencies, or errors that were not caught on the flow charts.

The program tape itself may be used as machine input with the particular data to be processed to produce the reports, statistics, analyses, or breakdowns that are desired. Moreover, it represents a complete program, which, once it has created by the computer, can be used again whenever the desired operation is to be performed. Thus, in an inventory operation, it could, when used with new data indicating disbursement figures, match them against inventory levels from an earlier period already stored in the computer, and print-out current levels.

What about the charges leveled at automatic programming by professional programmers? Is it inefficient in terms of machine time? Is it true that hand-coded programs will always represent more direct solutions to problems than automatically coded ones, which must of necessity depend on somewhat generalized routines because of the limited number of verbs or generators available?

According to Dr. Hopper, Flow-matic will now produce as efficient a

Cramer makes her a QUICK-CHANGE artist

It's a cinch to "change" a Cramer — easy as changing the baby! Every seat and back cover is tailored for perfect fit — slip on or off in a wink! That's why it's so easy to keep upholstery clean and new looking. Or if you want to redecorate, you can reupholster in a few minutes. Dozens of fabrics and colors to choose from — styles to fit every Cramer chair made!

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program as the "average" programmer can achieve, and a new, more streamlined and sophisticated compiler is now being developed by her division for introduction sometime in 1960. She confidently expects that "only the very best" programmers will be able to devise routines any more efficient than those the new compiler, which is itself being created by the present one, will furnish.

How is it possible for a current compiler (which is itself a program, of course, rather than a machine) to create a more efficient compiler? The answer lies in the fact that a compiler is a routine or program itself, and thus can itself be created by automatic programming techniques, just as any other program can.

The new compiler will offer a far more flexible pseudo-code than is now available, according to Dr. Hopper, thus making it even easier for people without technical training to deal directly with computer applications.

Moreover, she points out, even though it is true a programmer well above average can now produce a hand-coded program in machine language which may be superior in terms of machine processing time to those produced by automatic programming techniques, the greatest expense faced by most companies is represented by the time required to develop programs, not by the machine time required to run the programs off once they have been created. And no one seriously contends that hand coding is as fast a method of preparing a program as automatic programming.

Training time shortened

And then, Dr. Hopper points out, programmers themselves are in short supply, and training them takes a fairly long time. The same is true of coders —men and women trained to translate a program into machine language by hand coding methods. With automatic programming, a few programmers can create a whole variety of intricate programs on fairly short schedules, since the flow charting of a system for computer application is vastly simplified. And clerical workers can be trained in an extremely short period to translate the steps represented on the flow charts into pseudo-code for machine entry.

Thus, whereas formerly, three different groups were needed for devising a computer application—systems analysts who outlined the general system by which the work was to be done, programmers to adapt the system to the particular requirements of the machine, and coders to translate the programmer's work into detailed machine instructions, now highly-trained coders can be virtually eliminated. Moreover, Dr. Hopper predicts, as compilers become more sophisticated, the actual work of flow charting the system will itself be simplified. Thus, she believes programmers and systems analysts will tend to merge into one group since an efficient system will be the dominating characteristic of the whole computer application, and adapting the system to computer requirements will be so very simple that specialists for this phase will not be essential at all.

Automatic programming has the further advantage of giving control back to management, where it belongs, she points out, rather than letting it slip into the hands of the programmers. Programmers in the past, having technical knowledge which management did not have, could assume fairly complete authority over the computer installations. She cites two major companies which have already issued direct orders to their programmers that all future applications are to be developed by automatic programming techniques, rather than by hand coding.

Moreover, since a program, written in pseudo-code, is perfectly understandable to management, the chances of confusion or misunderstanding between company executives and the programmers or systems people preparing the flow charts and the pseudo-coded computer instructions are lessened.

(To be continued)

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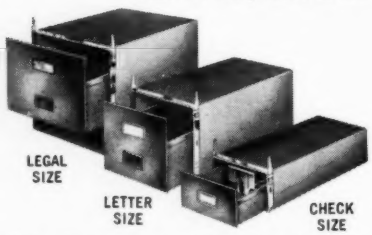

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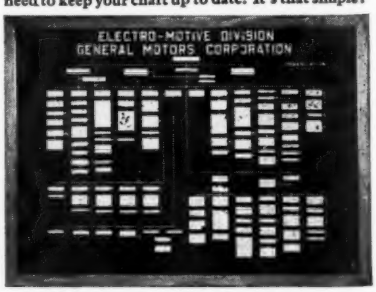

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Automation—

(*From page* 54)

The system will perform a wide variety of tasks for the firm. Among these is a function known in Wall Street circles as "trade figuration." This involves the business processing of data connected with a stock or bond transaction, including the calculation of the trade amount, the commission and transfer taxes, entering the facts in the customer's file and producing a printed confirmation of a sale or purchase to be sent to the individual client.

Once a transaction has been completed, the proper "customer's man" is notified — in person at the home office or by teletype to the branch offices — and the facts are fed into the computer by means of punched cards. In addition to recording the information in the customer's "history" on a reel of magnetic tape, the data processing system high-speed printer produces a printed confirmation notice. This is mailed to the customer as his permanent record and for billing purposes. More than 4,000 such confirmations are handled each day by the brokerage firm.

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Turn out reports of each customer's holdings and the location of the specific securities. Daily lists will be prepared on more active accounts and monthly reports on the entire customer list.

Provide margining reports, either on a daily or weekly basis, depending on how active the account may be. These reports indicate whether the customer should be notified that additional margin funds must be supplied by him to meet margin requirements.

Files—

(*From page* 33)

standardized as much as possible. This was done by exchanging file cabinets between departments, disposing of over-age cabinets, and painting and overhauling the usable ones. By doing this we were able to dispose of 78 cabinets no longer needed. This was made possible primarily by using the legal retention schedule as a guide in determining which material could be destroyed or transferred to semi-active records storage center.

As part of this program, we established a permanent procedure whereby all requests for new file equipment would be referred to the record administrator by the purchasing department. This has been so successful that the company hasn't had to purchase a single new cabiner for a period of more than two years.

We then incorporated into the agency's secretarial manual the proper steps to take in handling records which were to be retained in the storage center. It outlined how to fill out the inventory form required to identify the contents of each drawer, whom to call,

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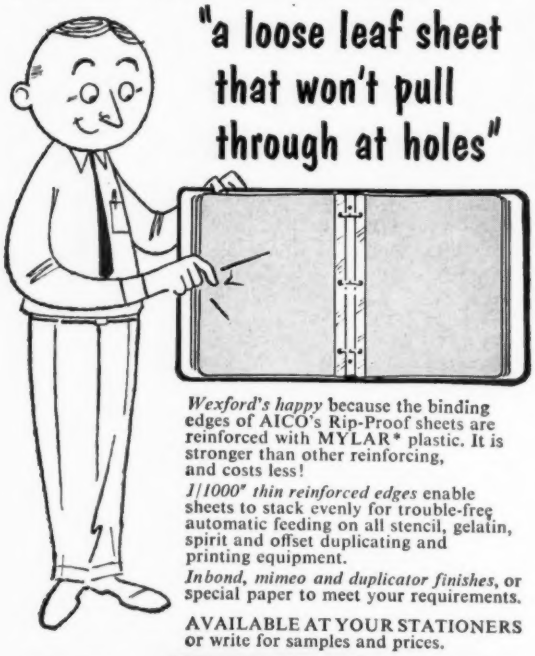

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how to request look-ups in the future, etc.

Each department and account group was made responsible for the inventorying and packing of its semi-active records. The inventory form was to be completed in triplicate and sent to the record administrator for review and for the assignment of a storage number. One copy of the form, with the storage number label, was then returned to the sender who put the label on the storage box and kept the copy of the form on file. The second copy was sent to the storage center as a notice to pick up the box from the department, and the third copy was retained by the record administrator for her permanent record.

Storage center brought home

At this point, a few words about the storage center. As previously mentioned the semi-active records were stored outside the office in a storage center. With the move to new offices, management believed it would be much more efficient to rent additional space in the basement of the new building to be used for the storage of records. This way, the records would be much more easily accessible, and the net cost would be less.

The record administrator worked with the architect in designing a basement records center. Storage boxes measuring 15 by 12 by 10 inches were used as they were easier to handle than larger boxes. To accommodate this equipment, open shelving, capable of storing 12 of these boxes on each shelf, 48 to each section and 9 sections to a row, made most use of 2,100 square feet available in the basement. Special shelving was designed for such items as ledgers, engraving plates, charts, displays, and IBM cards.

When the space was completed, those files in the records center in New Jersey which were to be retained were moved into the new basement semi-active record room together with material assigned there from offices in the old building. This record room now provides same-day delivery of all requested material, and over 300 requests for records are filled each month —all with one part-time records clerk.

Next step in the operation to create a new file look for Benton & Bowles was the establishment of a primary subject classification system to cover all records throughout the agency with an operational manual for each account section or department. This had several advantages:

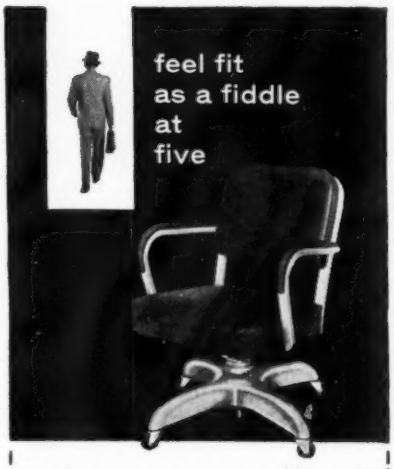
It allowed the agency to establish records correctly at the time of filing to permit easy location later.

It simplified filing procedures.

It made adherence to a legal retention schedule easier.

It saved time of personnel when they were transferred from one account group to another, or from one department to another.

The records administrator then selected an account group or department from the planned listing. (The areas with the greatest amount of records were scheduled to be tackled first). She piloted the system and guided individual departmental personnel who did the actual basic weeding out of older records and the installation of the standard subject system. A manual was written of subject headings. Only one past year and the current year are retained in the decentralized office files and the balance is either removed to the centralized files in the semi-active



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records room, or is discarded if overage or if a duplicate of material is filed elsewhere.

In the process of revising these office files, an additional 2,500,000 pieces of paper have been destroyed so far, for a total of over 5,500,000 in all. As of this date there are still several departments to review. Since most of the heaviest file areas have been covered, the bulk of the records has been reviewed and up-dated and the balance can be handled as time permits. Of course, part of the program calls for going back to areas previously set up to see if everything is going according to plan and also to break in any new employees hired within these areas.

In addition to all the advantages which this 'new file look' has given Benton & Bowles, such as more accessible records, easier training, and the elimination of over 5,000,000 pieces of useless paper, it has also produced a net dollar saving. It is estimated that the savings in the charge formerly paid to the independent storage center, the savings in floor space for the now destroyed records, the savings in file cabinets which didn't have to be purchased, and other incidentals, have produced a yearly net savings of about $10,000.

Benton & Bowles management believes that the addition of a records administrator to the company has been a very productive one for the agency, not only in the immediate past but compounding itself in the years to come. The institution of a similar program in your company can produce that added efficiency and lower cost that you are always striving for.

Centers—

(*From page* 31)

more than 3,000 employees. The computer, a Service Bureau official quips, "plays no favorites." The scheduling incorporates the individual employee's choice, union seniority and departmental manpower requirements by job classification.

The company formerly spent eight weeks preparing a vacation schedule. The job is now completed in one week. And if anyone is unhappy, he can blame it on the machine.

Fred Sarkis, Rochester, N. Y., is a small business executive who feels he could not function without automation. Mr. Sarkis is in the vending machine business. His firm, which operates 500 coffee machines, recently abandoned its manual record-keeping system and switched to a punched card setup using the Rochester center of the Service Bureau. The company is provided with a monthly report consisting of three separate analyses.

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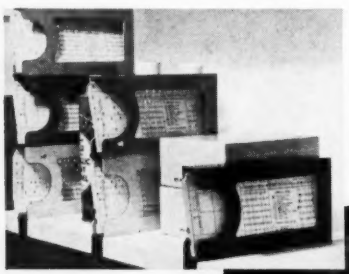
Each week the cards are brought to the Rochester center where they are verified and balanced. Each month the total report is processed. Mr. Sarkis figures his monthly cost at about $1 a machine for a 500 machine operation.



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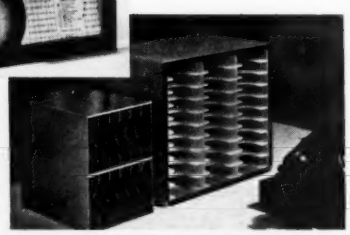

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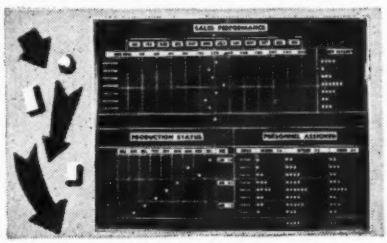

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Nestlé —

(*From page* 26)

an uninterrupted flow of work. Managerial offices are located adjacent to, or on the perimeter of, their corresponding work areas. The first floor, an area of general physical activity, contains those departments which have the most contact with the public: the main entrance and reception lobby provide direct access to the personnel, purchasing, and traffic departments. The lobby itself greets the visitor with a finely wrought gesso mural depicting the growth of the Nestlé organization. The muralist, Louis Ross, is one of the country's foremost artists in that medium.

The employee, sometimes a forgotten link in the operations chain, is provided with a host of facilities which create working conditions of maximum efficiency:

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Room for expansion? Lots of it. Movable partitions appear throughout; some are floor-to-ceiling, and those in open areas are seven feet high to insure privacy while still giving the benefits of open area heating and cooling. The building was erected on one corner of a six-acre property leaving space for a future wing to be added should it prove necessary. Current space of the building is 135,000 square feet. Employees number approximately 550.

Among the specialized departments of the Nestlé company is the home economics test kitchen, where product testing and tasting takes place. The room contains four complete, ultra modern kitchen units, and enough culinary gadgetry to make a housewife green with envy. In a spotless room nearby, the coffee expert checks samples of products submitted daily by each Nestlé plant. The room is equipped with machines that can act upon a single coffee bean in every way imaginable.

A conference and projection room is easily accessible to the advertising department and others who are concerned with the media of communications. It is elaborately equipped with projection booth and screen, as well as the latest electronic tape recording and playback equipment. A sliding door easily divides the area into separate rooms to accommodate simultaneous activities.

It is perhaps indicative of the operations of the Nestlé company to note that not one employee was lost as a result of the move. Turnover of personnel at the new location is extremely low, almost non-existent.

Mr. H. J. Wolflisberg, president of Nestlé, sums up the new headquarters building with this statement, ". . . this office building has been designed and built with the idea of combining beauty with utility. The most up-to-date facilities and services have been provided in these pleasant surroundings for the comfort of our employees and visitors, and for efficient operation of our business."

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PITNEY-BOWES POSTAGE METER "AV" model. Two years old. Perfect, like-new condition. Used very little. Only $1600.00 F.O.B. Milwaukee. Ideals Publishing Co., 3510 W. St. Paul Avenue. Milwaukee 1, Wisconsin.

FOR SALE: BEST OFFER F.O.B. Chicago. 12 sets (2 Cabinets, 77 trays each for 16" stands); 1 Automatic Graphotype #6740 Serial 563490; 2 FG 80 Flexowriters (serial 1275 and 2865) O.M. 314.

SALE: FACTORY DEMONSTRATOR ELECTRIC 2 in 1 Folding and Letter Opening Machine. Fully guaranteed. Regular price $432.50, yours for $198.50. Lansdale Products, Box 568, Landsdale, Pa.

FOR SALE: "NATIONAL" POSTING Machine. 6 Totals. Good condition. Price $250.00. Louisiana Welding Supply Company, 1931 Plank Road, Baton Rouge, Louisiana. Phone DI-39212.

Positions Available

LARGE PHILADELPHIA INDUSTRIAL COMPANY is seeking man to head section exercising staff control over all forms and printing. Must be college graduate preferably in business or methods engineering. Minimum of 10 years' experience in Systems and Procedures work affording thorough technical knowledge of forms design, standardization, and printing processes and materials. Starting salary $10,000. Send resume, in complete confidence to H. M. Overley, P. O. Box 7258, Philadelphia 1, Pennsylvania.

Positions Wanted

OFFICE MANAGER. GRADUATE ACCOUNTANT. Mechanical and construction background. Experienced in accounting systems, finance, insurance, public speaking. Age 39. O.M. 320.

CATALOGS
BOOKLETS, BROCHURES FOR THE OFFICE

Common Language (1)

Remington Rand, Div. of Sperry Rand Corp., 315 Fourth Ave., New York 10. An eight-page booklet (RT 8986) describes the advantages of common language tape and edge-punched card machines when used in paperwork processing systems. The company's Syncro-Tape machinery is displayed.

Tape Products (2)

Avery Label Co., 1616 S. California Ave., Monrovia, Cal. A line of pressure sensitive tape products is featured in this descriptive catalog containing price lists. Among the products shown are file folder labels, correction tape, airmail labels, photo mounts, and price marking labels.

Film Rental (3)

IMS film rental catalog describes 16mm films available for business educational purposes. Many films treat work simplification methods in both plant and office operations. Rates and terms by which the films are rented are also included.

Dictation Tips (4)

Dictaphone Corp., 420 Lexington Ave., New York 17. *Writing Out Loud* is a 36-page, illustrated booklet offering practical suggestions on how more effective dictation may be accomplished.

Office Furniture (5)

Dunbar Furniture Comporation of Indiana, Berne, Indiana. A fully illustrated, 80-page catalog depicts a complete line of office furniture designed by Edward Wormley. Executive and secretarial units are illustrated with matching storage cabinets, chairs, and sofas, etc. Specifications of woods, finishes, fabrics, and leathers are also given.

Protection for Documents (6)

American Photocopy Equipment Co., 2100 W. Dempster St., Evanston, Ill. An illustrated brochure depicts the Apeco Ply-On office laminator which uses DuPont Mylar plastic to protect papers and documents.

Microfilm Index (7)

Recordak Advertising Dept., Wanamaker Place, New York 3. Illustrated booklet explains "How to Index Your Microfilm Records." Retrieval efficiency depends on the proper organization of the material to be microfilmed, the booklet points out.

Character Recognition (8)

Autographic Business Forms, Inc., 45 East Wesley St., South Hackensack, N. J. A 16-page booklet explains and illustrates the Magnetic Ink Character Recognition program as directed by the American Bankers Association. MICR is the principle behind automatic check handling, and banking automation.

OCCUPATIONAL DISEASE AD NO. 3

A tab-man who worked on his luck
With Hurry-Up Hangover was struck.
While the boss shouted "hurry"
Through the tab room he'd scurry
For a forms shipment still on the truck.

HOW TO CURE HURRY-UP HANGOVER . . . FOREVER!

Ever been caught short of tab forms? Want to make *sure* it doesn't happen again? Then try this:

Call your Clarkson Distributor.

Ask him to tell you all about Clarkson's special, *fast* shipping service. Let him spell out how stock forms are on their way in 24-48 hours; X-PRESS imprint orders in 48-72 hours.

And, of course, quick delivery is really the last step in the *service* you get from your Clarkson Distributor. Because behind him are the know-how and facilities of Clarkson Press, Inc.—*specialists* in the production of stock, imprinted stock, and custom-designed continuous tabulating forms.

So solve your tab form problems *before* they arise. Get in touch with your nearest Clarkson Distributor. If you don't know him, ask us for his name.

CLARKSON PRESS
INCORPORATED
A Subsidiary of Graphic Controls Corporation
189 Van Rensselaer Street Buffalo 10, New York

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Your INSURANCE that every label GETS on, STAYS on . . . every piece GETS LABELED . . . FAST!

Model E

CHESHIRE Labeling Equipment

Fully automatic accuracy — applies up to 12,000 pre-addressed labels per hour

SAVES IMPORTANT TIME — SAVES BIG MONEY on pre-addressed labeling jobs for many types of mailings. No wasted labels, no skipped pieces! Every label accurately, neatly applied on the proper spot.

Models start at $3000

Labelling heads available as separate units for various types of machines not manufactured by Cheshire.

Applies labels to envelopes, postcards and lightweight printed pieces up to 11" x 14½"

Widely used by volume mailers. There's a model for your need.

Investigate now — *NO OBLIGATION!*

CHESHIRE Inc.

1644 North Honore Street • Chicago 22, Illinois

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AUGUST 1959 ADVERTISEMENT

(Circle respective page numbers on which ads appear)

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Name ..... Title .....

Company .....

Address .....

City ..... Zone ..... State .....

Number of Office Employees (all departments) .....

OFFICE MANAGEMENT
212 Fifth Ave., N. Y. 10, N. Y.

●

August 1959 issue
This inquiry form good
Until September 15, 1959

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1 Superb Writing Ease. SEMI-HEX won't scratch, stick—even on cardboard! The new SEMI-HEX just glides along with a strong dark line. Laboratory tests prove that General's special Lanolin Process Lead makes it the smoothest writing pencil ever! And smooth writing helps prevent writer's cramp, finger stiffness—keeps office efficiency at its peak!

2 Stronger, Longer-lasting Points! General's exclusive Carbo-Weld Process makes SEMI-HEX points virtually "Break-proof." No office time wasted sharpening and re-sharpening pencils.

3 Guaranteed Longer-Wearing! The new SEMI-HEX is unconditionally guaranteed to outlast, outwrite and outperform ordinary office pencils. Stocks last long time — keep inventory down!

Available in 5 degrees: 1, 2, 2-2/4, 3 and 4.

See Your Local Dealer Now — Or Write Us On Your Company Letterhead for FREE SAMPLES.

GENERAL PENCIL COMPANY
69 FLEET STREET, JERSEY CITY 6, N. J.

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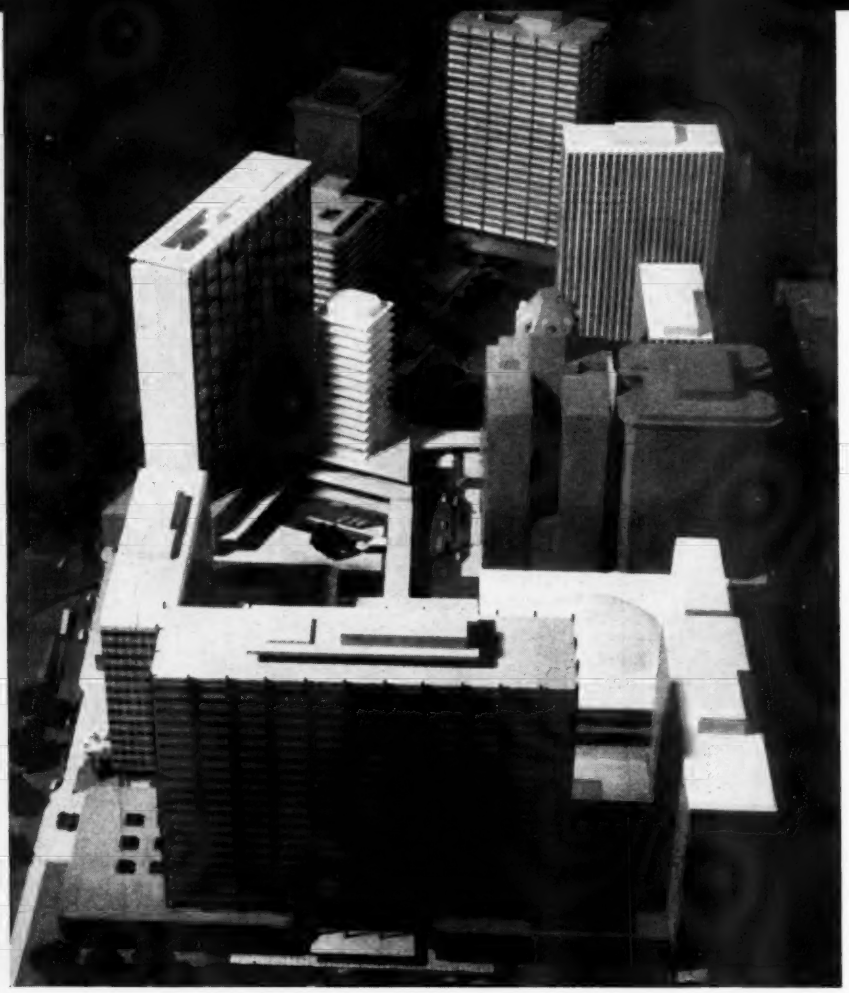

editorial

Rebirth of the city

CENTRAL city or suburb as the ideal location for offices? The question assumes new dimensions as city after city, alarmed at the flight of people, business—and tax receipts—to perimeter areas, shows a real determination to rehabilitate downtown business and shopping areas. Baltimore's Charles Center plan, outlined on page 56 of this issue, has not progressed as far as restoration projects in some other Eastern cities, but it is one of the most comprehensive and imaginative attacks on the problem of urban blight that has yet been mounted. Blending office, shopping, hotel, entertainment, and transportation facilities in one complex, it is projected as a completely integrated "heart" area for the city. Boston, too, in its new Prudential Center, will create a balanced community of office space and residential apartments in an area formerly dominated by railroad yards. New York's Lincoln Center project, although primarily devoted to cultural and entertainment facilities, will also incorporate housing, and shopping areas.

Western and Midwestern Cities are also attacking the problem of urban blight on a major scale. Chicago, Denver, Los Angeles, St. Louis are all either planning, or have already started major clearance projects.

These sweeping restoration projects are long overdue in most cases, but they are fast becoming a reality now. Perhaps in the long run it will prove that the "flight to the suburbs", by its very speed and tempo, has alarmed the cities to the point where it will make them once again attractive to live in and the undisputed centers of commerce and industry.

MATTHEWS ABSTRACT
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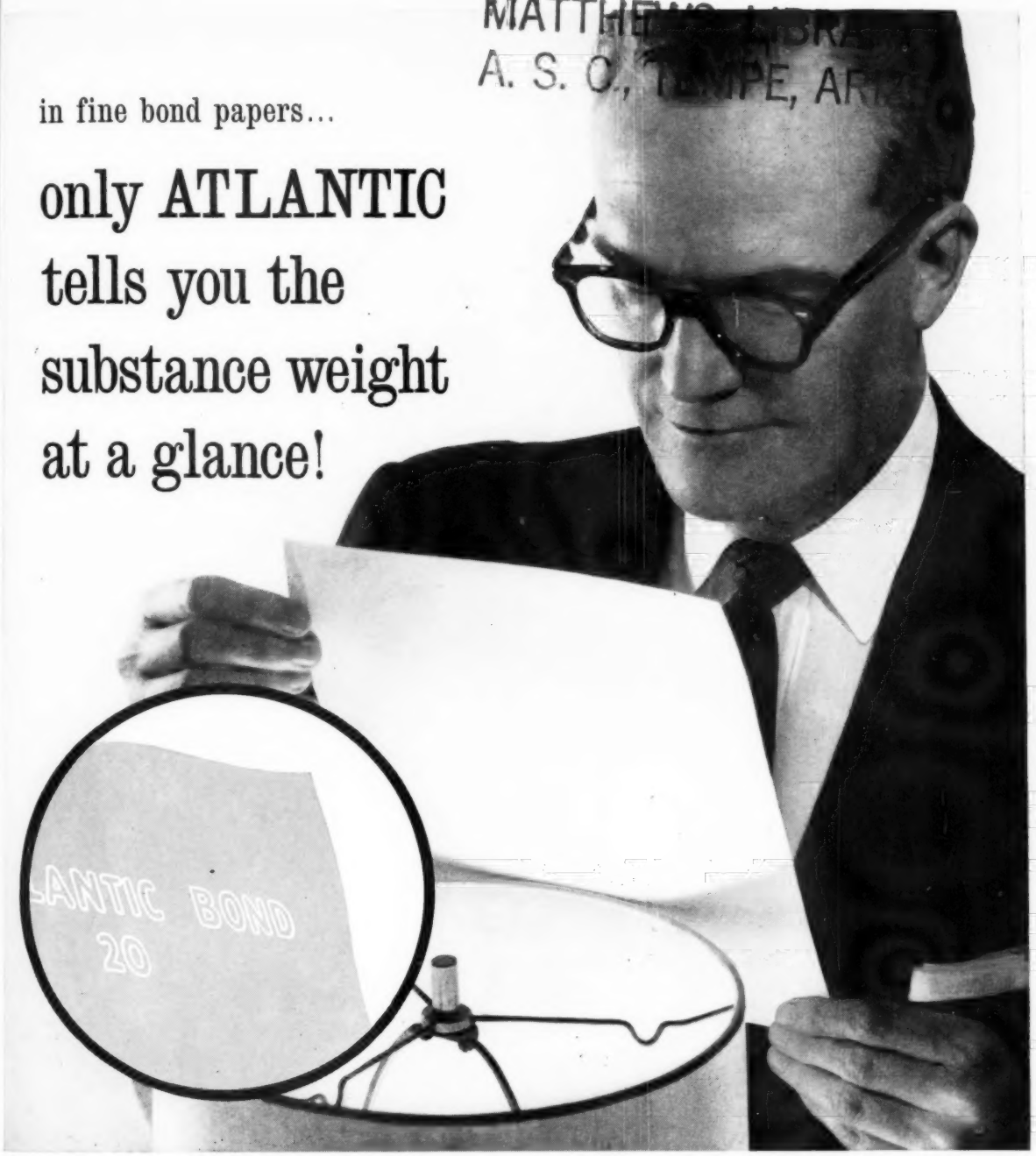

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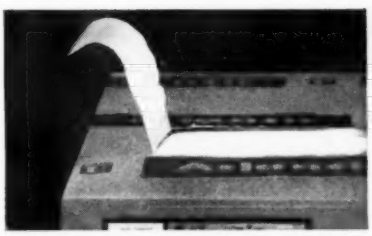

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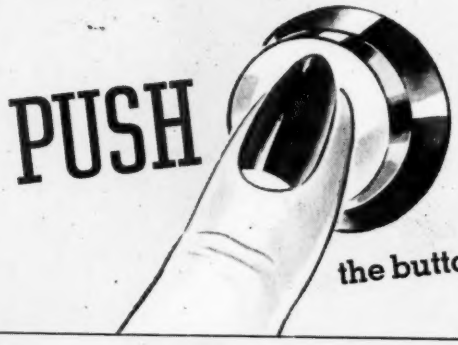

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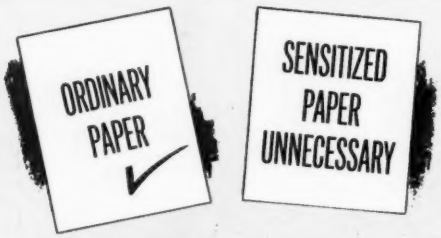

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